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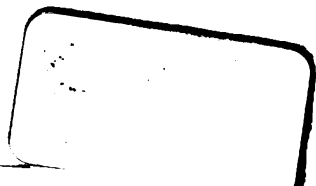
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No. 1.

THE
American Antiquarian.

A QUARTERLY JOURNAL DEVOTED TO

Early American History, Ethnology
and Archæology.



EDITED BY

REV. STEPHEN D. PEET,

*Corresponding Secretary of the American Anthropological Association, and of the State
Archæological Association of Ohio.*

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A Note to our Correspondents.

The first number of THE ANTIQUARIAN has been unavoidably delayed. The next number we hope to publish earlier in the quarter. Contributors and Correspondents will please forward their communications as promptly as possible. The Editor expects to change his residence to a point nearer Cleveland, and will then be able to give more time to the periodical. Please address,

REV. STEPHEN D. PEET, Ashtabula, Ohio.

The American Antiquarian,

A Quarterly Journal of Correspondence on American Archaeology, Ethnology,
and Anthropology,

REV. STEPHEN D. PEET, EDITOR.

Cor. Sec'y of the American Anthropological Assoc'n, and of the State Archaeological Assoc'n of Ohio.

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Editor's Residence, Ashtabula, O.

This Magazine is designed to be a medium of correspondence between Archaeologists, Ethnologists and other scientific gentlemen. It embraces in its scope the widest range of intelligent discussion on the subject of Anthropology, but is especially devoted to the study of the Historic and Pre-historic Antiquities of the two Continents of America.

It will contain original articles on Early American History; on the Native Races of America, and on Pre-historic Archaeology, from the most prominent writers in the different departments.

The results of investigation by the different Historical and Archaeological Societies will be given by it, and correspondence from gentlemen in various and distant localities in reference to all recent explorations and discoveries will also be presented.

Its pages will be open to discussions on the great problem of man, but the chief object will be to illustrate the earliest history of the American Continent, the Mound Builders, the Antiquities of Peru, Mexico, New Mexico and the Territories, the traces of the "white man" before the discovery by Columbus; the Native Races, their migrations, affinities and characteristics; the Relics, Remains and Structures belonging to the Pre-Historic ages; the Languages of the Aborigines, and all other topics connected with the pre-Columbian History.

Correspondence will also be sought from gentlemen in other countries so far as it may illustrate these topics, and the Pre-historic Antiquities of all lands will be made a specialty. The aim will be to make the Magazine the exponent of all antiquarian research on the continent.

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THE AMERICAN ANTIQUARIAN.

VOL. I. No. I.

APRIL, 1878.

ANCIENT GARDEN BEDS OF MICHIGAN.

(Read before the Detroit Scientific Association, December, 1876.)

BY BELA HUBBARD.

In a paper read before this Association last winter I alluded to a class of works of the Mound-Builders existing in Michigan, of unknown age and origin, and which have received the name of "Garden-Beds."

An unusual importance attaches to these remains of a lost race, from the fact that they have been almost entirely overlooked by archæologists, and that of those which were so numerous and prominent forty, or even thirty years ago, nearly every trace has disappeared. For any knowledge beyond the scanty details hitherto recorded we are forced to rely upon the recollections of the "oldest inhabitants." We know how uncertain this reliance often is, and were it otherwise, we cannot but recognize the rapidity with which we are losing our hold of this kind of testimony, and the very brief period at which it must cease altogether.

THE EARLIEST MENTION OF THESE RELICS, which, I find, is by Haven, in his "Archæology of the United States." It is the Report of Verandrier, who, with several French associates, explored this region before 1748. He found in the western wilderness "large tracts free from wood, many of which are everywhere covered with furrows, as if they had formerly been plowed and sown."

Schoolcraft was the first to give to the world any accurate and systematic account of these "furrows." Indeed, he is the only author of note who honors this interesting class of the works of the

Mound-Builders with more than the most meagre mention. Observations were made by him as early as 1827. He gives figures of two kinds of beds, and he records the fact, that "the garden beds, and not the mounds, form the most prominent, and, by far, the most striking and characteristic antiquarian monuments of this district of country."

Another writer of early date, still resident of our State, John T. Blois, published, in 1839, in his "Gazeteer of Michigan," a detailed description, with a diagram, of one kind of the beds.

No mention is made of these remains by Priest or by Baldwin. Foster devotes to them less than a single page of his voluminous work, and only says, in effect, that "they certainly indicate a methodical cultivation, which was not practiced by the Red man."

Dr. Lapham describes a few of this kind of remains which were found upon the western shore of Lake Michigan, as "consisting of low parallel ridges, as if corn had been planted in drills. They average four feet in width, and twenty-five of them have been counted in the space of one hundred feet."

Yet these relics constitute a unique feature in the antiquities of our country. They are of especial interest to us, from the fact that they were not only the most prominent of our antiquities, but, with the exception referred to in Wisconsin, they are confined to our State.

Some investigations, by no means thorough, enable me to define more accurately and fully than has been heretofore done the different kinds of these beds, which I shall attempt to classify, according to the most reliable information obtained. But I must first define

THEIR SITUATION, EXTENT AND CHARACTER.

The so-called "Garden Beds" were found in the valleys of the St. Joseph and Grand Rivers, where they occupied the most fertile of the prairie land and burr-oak plains, principally in the counties of St. Joseph, Cass and Kalamazoo.

They consist of raised patches of ground, separated by sunken paths, and were generally arranged in plats or blocks of parallel beds. These varied in dimensions, being from five to sixteen feet in width, in length from twelve to more than one hundred feet, and in height six to eighteen inches.

The tough sod of the prairie had preserved very sharply all the outlines. According to the universal testimony, these beds were laid out and fashioned with a skill, order and symmetry which distinguished them from the ordinary operations of agriculture, and were combined with some peculiar features that belong to no recognized system of horticultural art.

In the midst of diversity, sufficient uniformity is discoverable to enable me to group the beds and gardens, as in the following

CLASSIFICATIONS :

1. Wide convex beds, in parallel rows, without paths, composing independent plats. (Width of beds 12 feet, paths none, length 74 to 115 feet.) Fig. 1.
2. Wide convex beds, in parallel rows, separated by paths of same width, in independent plats. (Width of bed 12 to 16 feet; paths same; length, 74 to 132 feet.) Fig. 2.
3. Wide and parallel beds, separated by narrow paths, arranged in a series of plats longitudinal to each other. (Width of beds 14 feet; paths, 2 feet; length, 100 feet.) Fig. 3.
4. Long and narrow beds, separated by narrower paths and arranged in a series of longitudinal plats, each plat divided from the next by semi-circular heads. (Width of beds 5 feet; paths, $1\frac{1}{2}$ feet; length, 100 feet; height, 18 inches.) Fig. 4.
5. Parallel beds, arranged in plats similar to class 4, but divided by circular heads. (Width of beds, 6 feet; paths, 4 feet; length, 12 to 40 feet; height, 18 inches.) Fig. 5.
6. Parallel beds, of varying widths and lengths, separated by narrow paths, and arranged in plats of two or more at right angles N. and S., E. and W., to the plats adjacent). Width of beds, 5 to 14 feet; paths, 1 to 2 feet; length, 12 to 30 feet; height, 8 inches.) Figures *a*, *b*, and *c*, are varieties. Fig. 6.
7. Parallel beds, of uniform width and length, with narrow paths, arranged in plats or blocks, and single beds, at varying angles. (Width of beds, 6 ft; paths, 2 feet; length, about 30 feet; height, 10 to 12 inches.) Fig. 7.
8. Wheel-shaped plats, consisting of a circular bed, with beds of uniform shape and size radiating therefrom, all separated by narrow paths. (Width of beds, 6 to 20 feet; paths, 1 foot length, 14 to 20 feet.) Fig. 8.

LOCALITIES.

I present diagrams of each of these classes or kinds of beds on a scale of thirty-two feet to one inch. Of these only those numbered 1, 2, and 4 have ever before been delineated, to my knowledge. (See figures.) Nos. 3 and 5 are *described* by Schoolcraft and Blois, while the others are *figured* as well—1 and 2 by Schoolcraft, and 4 by Blois. No. 3, according to the latter, consists of five plats, each 100 feet long, 20 beds in each plat. Schoolcraft does not give the exact localities, and I am unable to state whether beds of the same class have been noticed by other observers. As to their extent, his language is, "The beds are of various sizes, covering generally from 20 to 100 acres." Some are reported to embrace *even* 300 acres. *Plats* of beds are undoubtedly here referred to.

Of the plat figured by Blois (No. 4.), the writer says: "They are found a short distance from Three Rivers, on one side of an oval prairie, surrounded by burr-oak plains. The prairie contains three hundred acres. The garden is judged to be half a mile in length by one-third in breadth, containing about one hundred acres, regularly laid out in beds running north and south, in the form of parallelograms, five feet in width and one hundred in length, and eighteen inches deep." The distinctive peculiarity of these beds is what Blois calls the "semi-lunar" head, at the extremity of each bed, separated from them by a path, as represented.

Class 6, so far as my own inquiries warrant, represents the form and arrangement which is most common, viz.: that of a series of parallel beds, formed into blocks of two or more, alternating with other similar blocks placed at right angles to them. (See Figures *a*, *b*, and *c*.) The prevailing width of the bed is five or six feet, and that of the paths one and a-half to two feet. The length of the plats or blocks varies, the average being about twenty feet. Gardens of this kind were found by the early settlers, at Schoolcraft; the burr-oak plains at Kalamazoo; Toland's prairie; Prairie-Ronde, and elsewhere.

Mr. Henry Little says, that in 1831 they were very numerous on the plains where now stands the village of Kalamazoo; and south of the mound, eight or ten acres were entirely covered by them.

Mr. E. Laken Brown confirms this account, and says they reminded him of Old New England Gardens, being very regular

and even, and the beds five feet by twelve or fourteen feet. In 1832 the outlines were very distinct, and the burr-oak trees on them as large as any in the vicinity. Mr. A. T. Prouty concurs as to the extent covered, but thinks the beds were six feet by twenty-five to forty long. On the farm of J. T. Cobb, section 7, town of Schoolcraft, the beds were quite numerous as late as 1860. There must have been 15 acres of them on his land. The "sets" would average five or six beds each. Neighbors put the number of acres covered with them in 1830, within the space of a mile, at one hundred.

Fig. 6-b, of class 6, is from a drawing by James R. Cumings, of Galesburg, of a garden in which the beds are of more than usual diversity in width and length. H. M. Shafter and Roswell Ransom, old settlers, say that three or four acres on the edge of the prairie, at this place, were covered with the beds. On the farm of the latter in the town of Comstock, of one hundred acres, there were not less than ten acres of beds, six feet by twenty-five to forty, arranged in alternate blocks, having a north and south and east and west direction.

Fig. 6-c, is from a drawing by Mr. Shafter.

The series represented by *Class 7*, (*fig. 7*) were found at Prairie Ronde. They are platted and described to me by Messrs. Cobb & Prouty. They differ from the more ordinary form of No. 6, in the arrangement of the blocks or sets of beds, which is here not at right angles, but at *various* and *irregular* angles, also in the single beds outlying. The number of beds in each block is also greater than usual.

Class 8 is established on the authority of Henry Little and A. T. Prouty, of Kalamazoo. The figure delineated is from the descriptions and dimensions given by the former. The diameter of the circular bed and the length of the radiating ones are each twenty-five to thirty feet. The latter describes two of similar design, but of smaller dimensions, the centre bed being only six feet in diameter, and the radiating ones twenty feet. All occurred at Kalamazoo, and in immediate association with the other forms of beds at that place, represented generally by *Class 6*.

There is reason for supposing that there may have existed another class of beds, differing altogether from any I have represented, from expressions used by both Schoolcraft and Blois. The former

speaks of "enigmatical plats of variously shaped beds;" and further "nearly all the lines of each area or sub-area of beds, are rectangular and parallel. Others admit of half circles and *variously curved* beds, with avenues, and are *differently grouped* and disposed."

The latter says, the beds "appear in *various fanciful shapes*." Some are laid off in rectilineal and curvilinear figures, either distinct or *combined in a fantastic* manner, in parterres and scalloped work, with alleys between, and apparently ample walks leading in different directions."

This language is too vague to enable me to construct a diagram, nor have I any confirmation to offer from other sources. The reputation of the writers will not allow us to consider the descriptions fanciful, but it is possible to suppose they were misled by the representations of others.

WERE THESE VERITABLE GARDENS?

To answer this question, we must proceed according to the doctrine of probabilities. All opinions seem to agree, that these relics denote *some species* of *cultivation*; and that they are very different from those left by the field culture of any known tribes of Indians. Nor do we find any similar remains in connection with the works of the Mound-Builders, which exist, on so extensive a scale, through the valley of the Mississippi river, although those unknown builders were undoubtedly an agricultural people.

The principal crop of the Indians is maize, and this was never cultivated by them in *rows*, but in *hills*, often large, but always disposed in a very irregular manner. As little do these beds resemble the deserted fields of *modern agriculture*. On the other hand, the resemblance of many of the plats to the well-laid out *garden beds* of our own day is very striking; while the curvilinear forms suggest analogies quite as strong to the modern "*pleasure-garden*."

The nearest approach to anything resembling horticultural operations among Indian tribes, within the historic period, is noticed by Jones, who refers to a practice, among some of the Southern Indians, of setting apart separate pieces of ground for each family. This author quotes from Capt. Ribault's "Discovery of Terra Florida," published in London, 1563. "They labor and till the ground, sowing the fields with a grain called *Mahis*, whereof they make

their meal, and in their gardens they plant beans, gourds, cucumbers, citrons, peas, and many other fruits and roots unknown to us. Their spades and mattocks are made of wood, so well and fitly as is possible."

In the St. Joseph valley I learned of numerous places, widely apart, where the labor and skill of our ancient horticulturists were apparent in small gardens, *laid out in different styles*, and with an eye to the picturesque; as if each family had not only its separate garden patch, but had used it for the display of its own peculiar taste.

Historians tell us of the Aztecs, that they had gardens, in which were cultivated various plants, for medicinal uses, as well as for ornament. Was there something analogous to this in the Michigan Nation? Did the latter also have *botanical gardens*? May we accord to this unknown people a considerable advance in *science*, in addition to a cultivated taste, and an eye for symmetry and beauty, which is without precedent among the pre-historic people of this continent, north of Mexico.

ASSOCIATED AND CONTEMPORANEOUS RELICS.

These extensive indications of ancient culture necessarily imply a *settled* and *populous* community. We are led, therefore, to look for other evidences of the numbers and character of the people who made them. But here an extraordinary fact presents itself; such evidence is almost wanting! The testimony of nearly every on whom I have consulted — men who were among the first of the white race to break up the sod, that for ages had consecrated these old garden lands, — agrees in the fact, that almost none of the usual aboriginal relics were found; no pottery; no spear and arrow heads; no implements of stone; not even the omnipresent pipe. Tumuli, or burial mounds of the Red man, are not uncommon, though not numerous, in Western Michigan, but have no recognized association with the garden race.

Upon the St. Joseph and Colorado rivers, and in the town of Prairie Ronde exist several small circular and rectangular embankments, resembling the lesser works of the Mound-Builders so numerous in Ohio. But no connection can be traced between these detached earthworks and the garden beds. None of them seem to have been the bases of buildings, nor do they give indication of

any religious origin or rites. There are no traces of dwellings, and the soil which has so sacredly preserved the labor of its occupants, discloses not even their bones!

At Three Rivers, and in Gilead, Branch County, are some ancient embankments, which are probably referable to this people, and may pass for works of defence. That at the first-named place was notably extensive. It consisted only of an earth embankment, about six feet in height, extending between two forks of a river, a mile apart. It thus enclosed a large area, and with a sufficient garrison might have withstood the siege of a large army of barbarous warriors.

It seems strange, indeed, that these garden beds, suggestive as they are, should be the only memorials of a race which has left such an evidence of civilized advancement, and was worthy of more enduring monuments! We may reasonably conclude, that they were a people of *peaceable disposition*, of *laborious habits*, and of æsthetic if not *scientific tastes*; that they lived in simple and *patriarchal* style, subsisting on the fruits of the earth, rather than of the chase. Their dwellings and their tools were of *wood*, and have perished. This simple record of their character and labors is all, it may be, we can ever know.

ANTIQUITY OF THE GARDEN BEDS.

‘But is this *all*? May we not form some reasonable conjecture as to the *period in which these gardeners lived*?’

A fact mentioned by Dr. Lapham furnishes a species of evidence, as to the *relative* antiquity of the garden beds of Wisconsin, as compared with the *animal mounds*. They were found overlying the latter; from which he infers, of course, a more recent origin. We may also suppose a considerably *more recent* age, since it is not likely that the race could have thus encroached upon the works of another, until *long after* these had been abandoned, and their religious or other significance forgotten.

The date of the abandonment of the beds may be approximately fixed, by the *age of the trees* found growing upon them. One of these, mentioned by Schoolcraft, cut down in 1837, had 335 cortical layers. This carries the period back as far as 1502, or some years prior to the discovery of the country by the French. How long these labors were abandoned before this tree commenced its

[Scale 16 ft. to 1 inch.]

Garden Beds on Prairie Ronde, Mich.

FIG. 7.

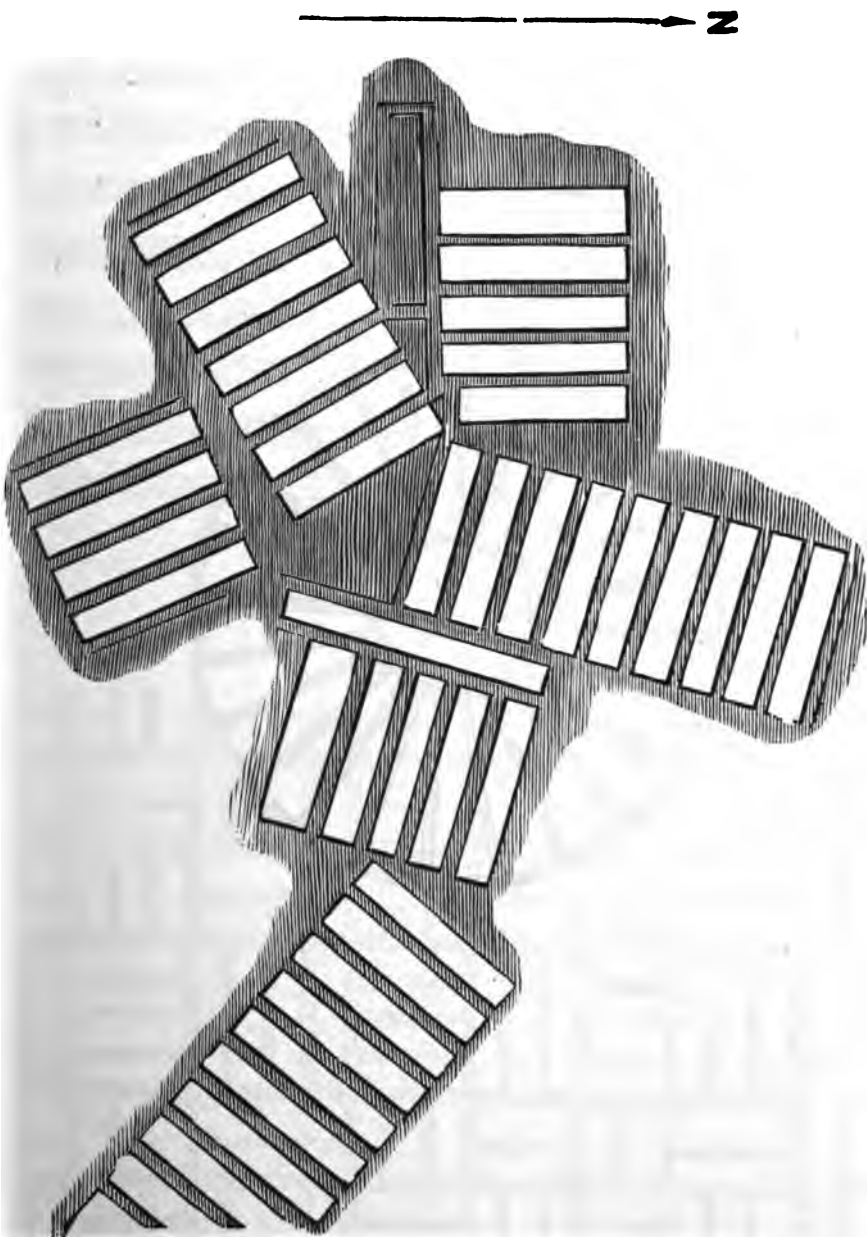


FIG. 8.

Ancient Garden Bed, Kalamazoo, Mich.

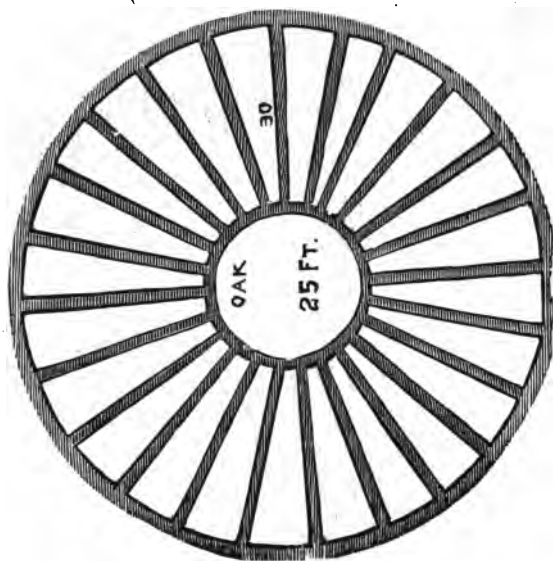


Fig. 5.
Ancient Garden Beds, Western Mich.

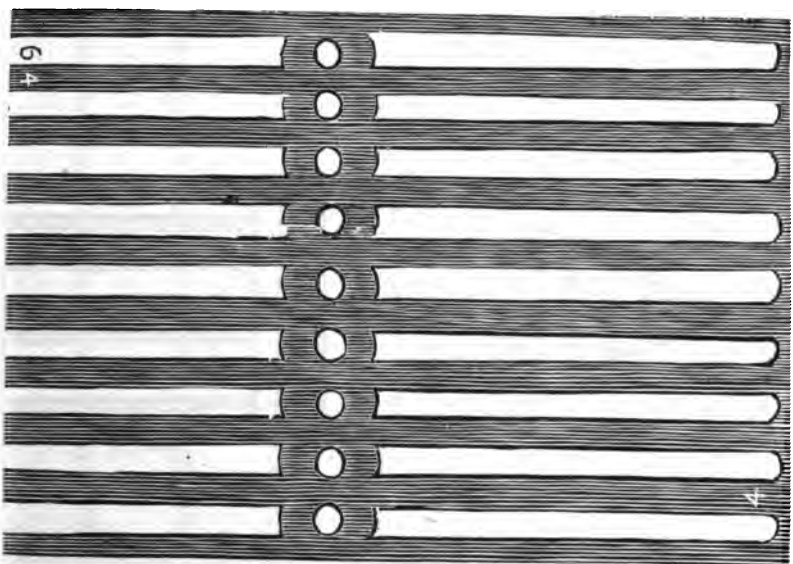
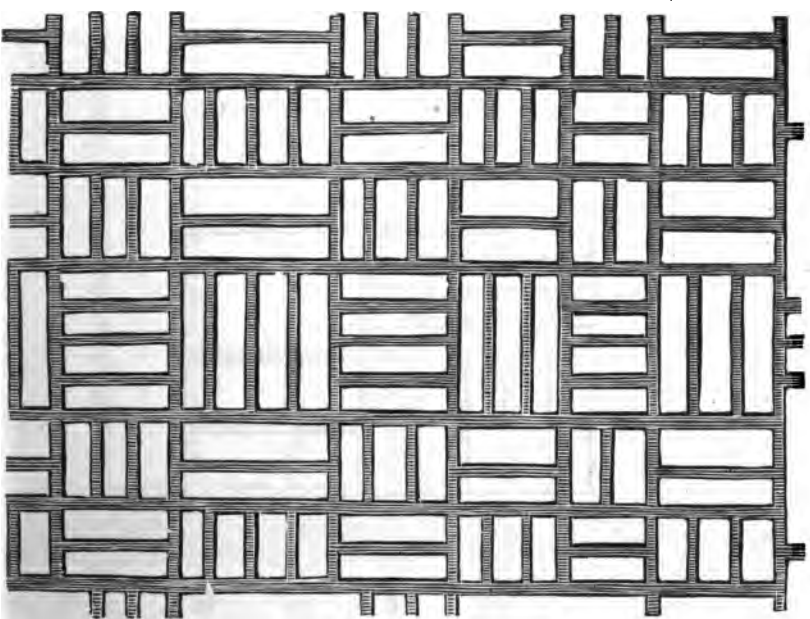
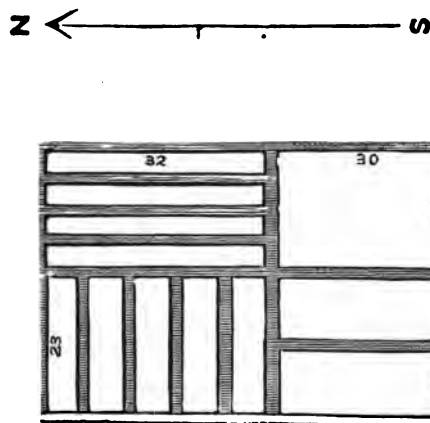


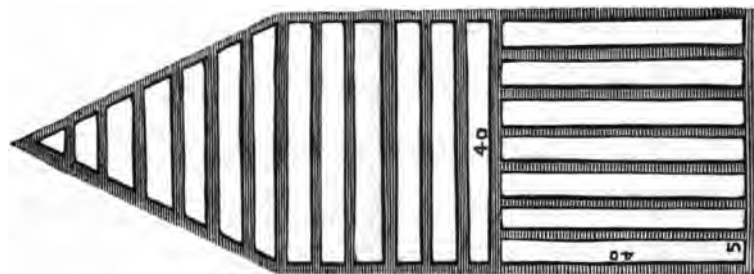
Fig. 6.
[a]
Ancient Garden Plats, Kalamazoo County, Mich.

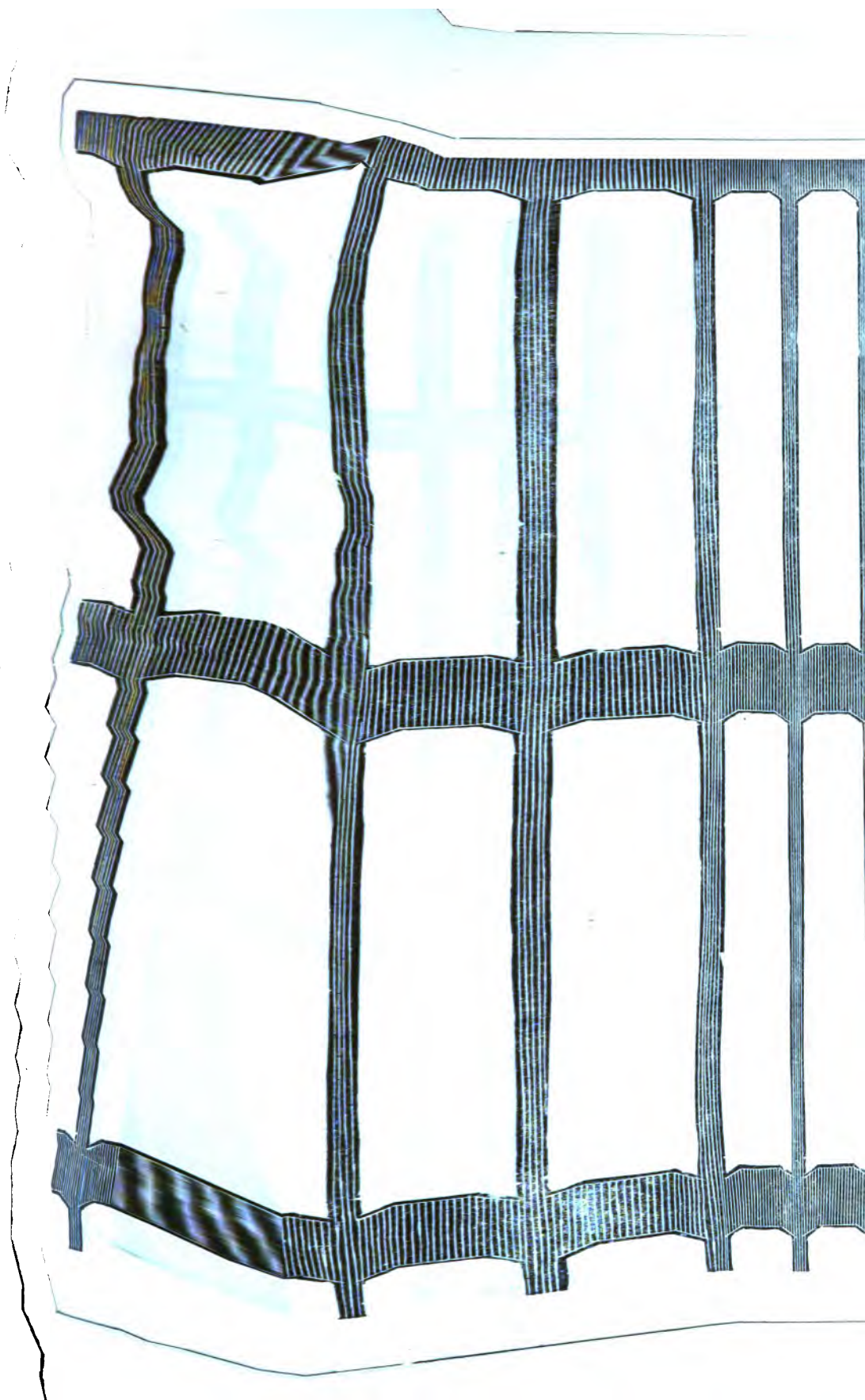


[b] **Fig. 6.**
Ancient Garden Plats,
Kalamazoo Co., Mich.



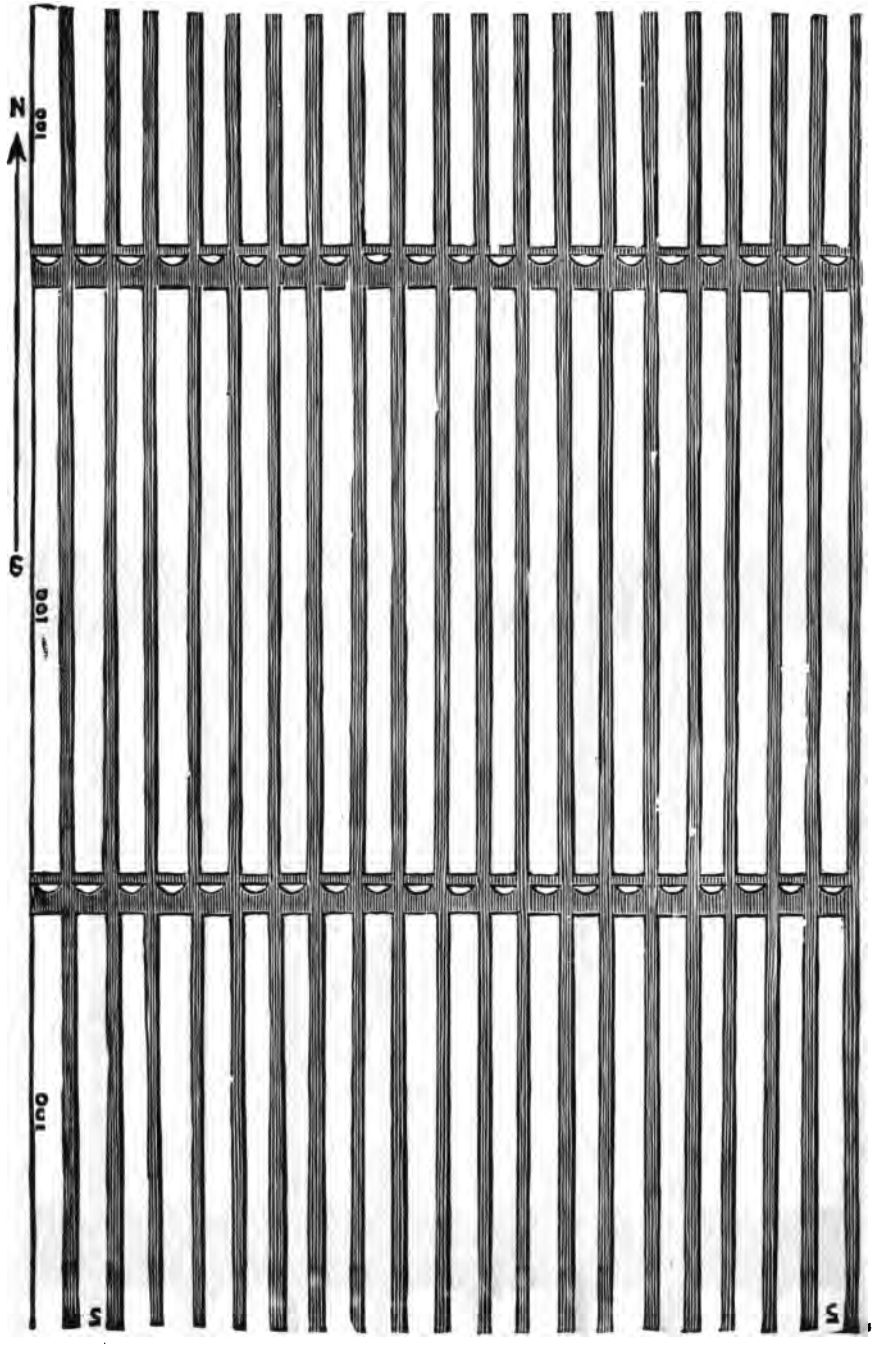
[c] **Fig. 6.**
Ancient Garden Plat,
near Galesburg, Mich.





Ancient Garden Beds, St. Joseph Riv. Valley, Mich.

Fig. 4.



[Scale 32 ft. to 1 inch.]

Ancient Garden Beds, Grand River Valley, Michigan.

FIG. 1.

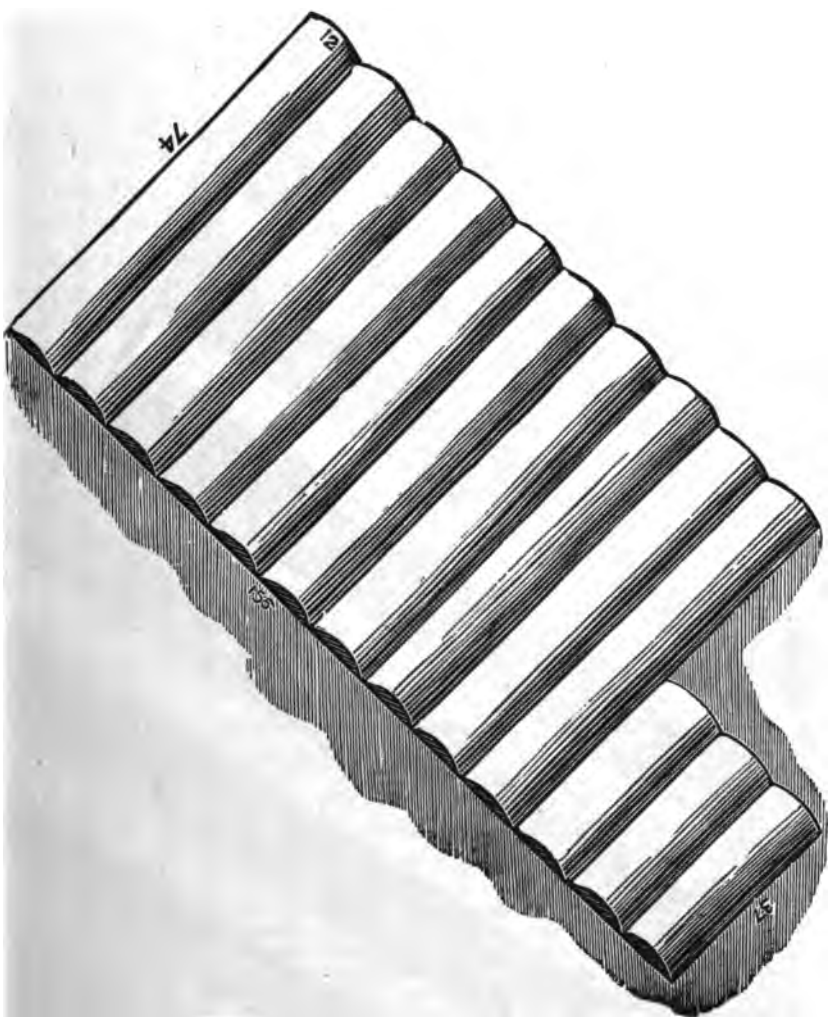
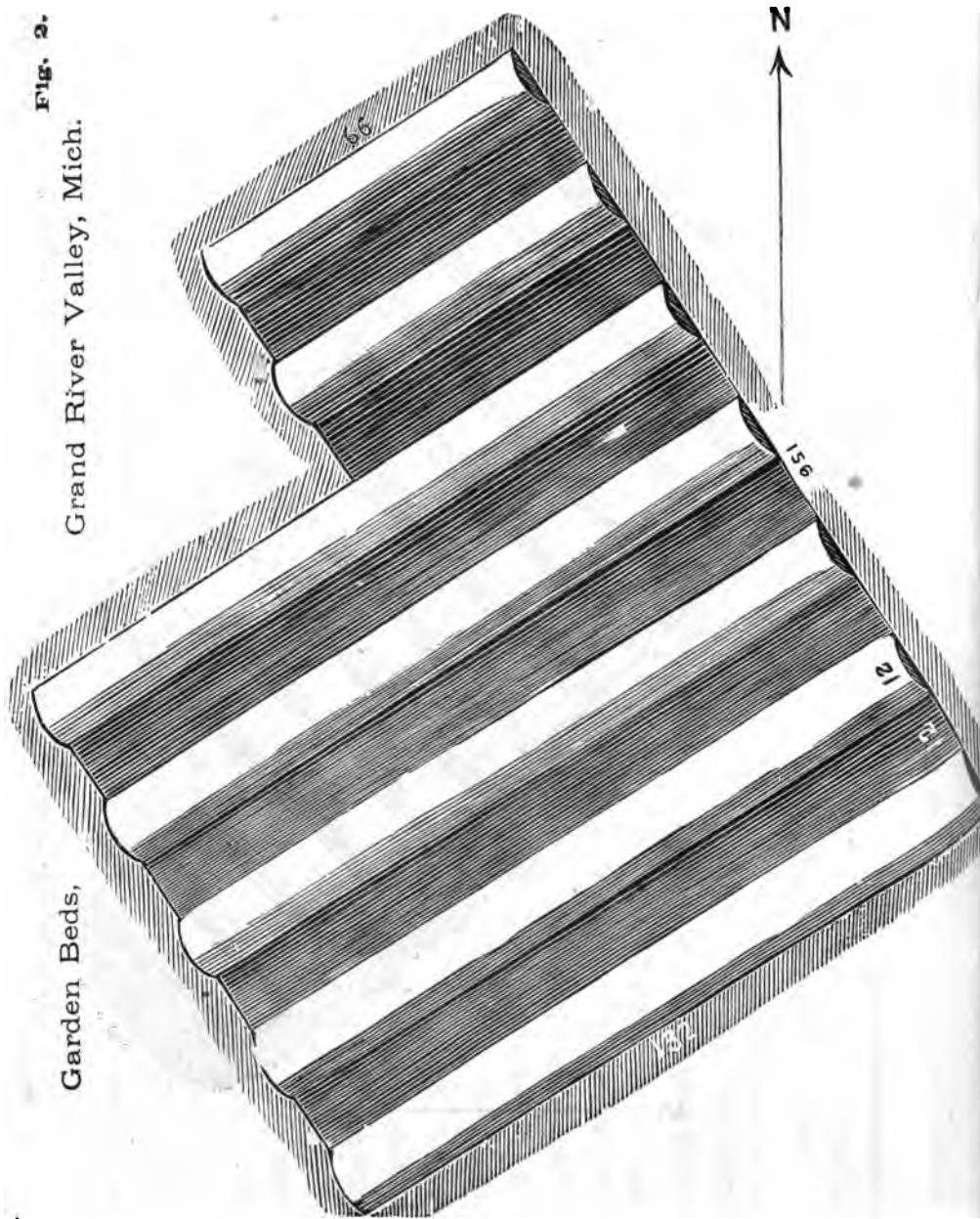


Fig. 2.
Grand River Valley, Mich.



growth may not be susceptible of proof. Early French explorers do not appear to have been interested in the question, and it does not seem to me necessary to go further back than the three centuries during which that tree had flourished, for a period quite long enough to have crumbled into indistinguishable dust every trace of wooden dwellings and implements, as well as of the bodies of their fabricators, if the latter received only simple earth burial.

At the time of the arrival of the French the country was in possession of Algonquin tribes, who emigrated from the St. Lawrence about the middle of the 16th century. They were ignorant of the authors of these works, and were not more advanced in the arts of culture than the other known tribes.

It is probable that the few defensive works, I have mentioned, were erected by this settled and peaceful race of gardeners, as places of temporary refuge for the women and children, against the raids of the warlike tribes living eastward of them. The larger one may have served for the general defence, in a time of sudden and great emergency. It is probable that on some such occasion they were surprised by their savage and relentless foes, and were overwhelmed, scattered or exterminated.

Most of the facts I have been able to present are gathered, in large part, from the memories—of course not always exact or reliable—of early settlers, and after modern culture had for many years obliterated the old.

It is perhaps useless to regret, that these most interesting and unique relics of a lost people have so completely perished, through the greed of the dominant race; or that they could not have received, while they yet remained, the more exact and scientific scrutiny which is now being applied to the antiquities of our land. Much that might then have been cleared up, must now remain forever involved in mystery, or left to conjecture.

[NOTE BY THE EDITOR.—The sense of beauty manifest among the primitive population of this continent is most remarkable. This is shown in their choice of locations, in many of their articles of use, such as arrow-heads, spear-heads, and other implements, and especially in earth-works and their architectural structures. There are earth-works in Ohio which seem to have been constructed with no other design than as ornaments—the beauties of nature receiving additions from the art of her children. A rare taste and skill have been exercised in the construction of these works; and the selection of the spot for them has been with a wonderful adaptation to the surrounding scenery. Such works, even at the present time, if fortunately left free from the vaudal hands of the modern agriculturist, form striking specimens of genuine landscape gardening.

The "Garden Beds" may have been only one feature of this wonderful cultus of a Race which has passed away, the remains of a system of Horticulture which was spread over the valley of the Mississippi, but which has long been trampled upon and thrown into irrecoverable ruin.]

PALÆOLITHIC IMPLEMENTS.

Notes on the Discovery of Palæolithic Implements found within the limits of the City of Reading, Penn.

BY A. F. BERLIN, READING, PA.

Having so often read of the interesting finds of Palæolithic remains of stone, by Dr. C. C. Abbott, of Trenton, New Jersey, it occurred to me that, if they could be found in the valley of the Delaware, other points would also contain them. I, therefore, when out in the fields, along the banks and bluffs of creeks and rivers, searching for the remains of an almost extinct race of people, took much care to look for roughly made implements. I succeeded in finding a large number of unfinished relics, but not those wanted. My searches were however rewarded, when on examining a newly ploughed field in the limits of the city of Reading, Pennsylvania, several were found in one part of it, on a small slope or bluff, a short distance from a shallow creek, of the same type as those discovered by Dr. C. C. Abbott; also similar to the river-drift relics of Europe, and those made by the Eskimo at present. While Dr. Abbott's specimens are of quartzite and an indurated clay slate, those occurring at Reading are all of the first mentioned mineral found *in situ*. They seem to be rare, not more than twenty perfect specimens having so far been gathered, consisting of spear-heads, scrapers and other implements, the use of which it is impossible to tell,—an inference, that they were made by a people low in the grade of civilization, whose wants were few, their implements still more so, and made to serve numerous purposes. The relics of the Delaware valley were found from six to nineteen feet* beneath the surface, while those obtained here (Reading, Pennsylvania), were ploughed up from a depth perhaps eighteen inches, in yellow argillaceous clay. The question arises here, were these rude relics made by the Red man? If so, then they were the handicraft of some who understood little of the art of chipping or flaking stone, or made by the Indians when in a low state of civilization,—evidence that they occupied this part of country longer than is generally supposed. Being so dissimilar to the many thousands of relics found in the vicinity, made by the Indians, and also their close resemblance as before stated, prove that they were made not by the Aborigines, but by a race of people inhabiting the eastern

*So reported to the writer in a letter from Mr. Lucien Carr, Assistant Curator of the Peabody Museum of Archaeology and Ethnology, Cambridge, Massachusetts.

part of the United States who were either driven away by superior numbers, or had migrated long before the arrival of the Leni Lenape or Delawares. Were these people the Eskimo, and are these relics (their remains), all that is left here to tell the story? * The name Eskimo is from the Algonquin word *Eskimantick*, eaters of raw flesh. There is reason to believe that at one time they possessed the Atlantic coast considerably to the south. The Northmen in the year 1000, found the natives of Vinland, probably near Rhode Island, of the same race as those they were familiar with in Labrador. They call them *Skrabinger*, and describe them as numerous and short of stature. (Eric Rothens Saga, in Mueller, *Sagenbibliothek* ! 214).

It is curious that the traditions of the Tuscaroras, who placed their arrival on the Virginian coast about A. D. 1300, spoke of the race they found there as eaters of raw flesh and ignorant of maize. (Lederer: *Account of North America*, in Harris' Voyages). The Indians claim to have been a usurping people, naturally. They, with whom they came in contact upon their arrival here, being the weaker, had to flee and where? They could not have crossed the ocean, but must have fled either north or south. We must then search for a people who "are small in stature, eaters of raw flesh and ignorant of maize." Upon examination we find north of us, in the regions of cold the Eskimo, a people similar. Are the interesting relics herein figured the remains of a pre-glacial people, as is thought of those found in the valley of the Delaware. Not being found so far beneath the surface, it would be out of place to assign to them an age as great as that. If they were made by pre-glacial people, then we can well agree with Dr. Abbott, "That the similar surface relics may also be glacial in age, and were dropped from melting ice-rafts, during the retirement and destruction of the southern limit of the ice, and finally, that inasmuch as it is probable that this early race was driven southward by the ice, and returned northward, following the shrinking of the glacier, that many of these surface-found implements were made by this same people when re-occupants of the country." † Figures have been annexed of the most interesting in the writer's collection, to this paper, which finely represent the specimens. A few, very interesting, were sent to the Peabody Museum, which will also be

*Foot note in "The Myths of the New World," by D. G. Brinton, page 23.

†Report on the discovery of supposed Palæolithic implements, from the Glacial drift in the valley of the Delaware river, near Trenton, New Jersey, by Dr. C. C. Abbott, 10th annual report of the Trustees of Peabody Museum of Archæology and Ethnology: vol. 2, No. 1, page 43.

described, in connection with those found in the Delaware valley, hereafter. The artist has so carefully delineated face and side-views, that it is almost unnecessary to describe the implements. I will, however, give a short description of those most interesting.

Figure 1 represents a scraper or "thumb-flint," so called in parts of Europe. It is made from a broad flake of pink quartzite, plainly showing the "bulb of percussion," nicely rounded and beveled at what may have been the pointed end. Both sides are equally chipped to the sharp projection which was perhaps placed into a bone or wooden handle. The cutting or scraping edge is sharp and well defined, indicating that it was used upon a soft substance, for instance, skin scraping to make wearing apparel. A scraper, similar in appearance, made by a modern Esquimeaux, is figured by Sir John Lubbock, in his "Pre-historic Times," on page 97. He says, "These modern specimens are in form *identical* with the old ones," Page 96. Another like relic belonging to the river drift period is shown by Sir John Evans.*

Figure 2, represents what may be called a spear-head of the leaf-shaped form. It is made from a blueish quartzite, well formed, with good cutting edges produced by slight secondary chipping on the ridged side. As can be seen in figure, the under face or side is almost flat. This implement may be classed with the "turtle backs," so called by Dr. C. C. Abbott. Like river drift implements are figured by Sir John Evans.†

Another very interesting relic, which I wish to call attention to, is Figure 5, which may also be called a spear head. It is rudely made from a blueish quartzite, nicely pointed, however, and a few blows along the sides have produced a good cutting edge. It is still more ridged than figure 2, and I am at a loss to know how this implement could have been securely placed in a pole or handle to do good service. I would also mention that there are a few secondary chippings along the sides of this implement. It is unnecessary to describe the remaining figures, as the careful drawings by the artist renders reference to them unnecessary. After a careful examination of these specimens, compared with the descriptions and drawings by Dr. C. C. Abbott and those of Sir John Lubbock, in the works above referred to, I am inclined to believe that they were manufactured by the earliest Eskimo occupants of this soil, a race who undoubtedly preceded all others, and not to a pre-glacial race to which they are attributed by Dr. C. C. Abbott.

*Ancient stone implements of Great Britain, page 426.

†Ancient stone implements of Great Britain.

MOUNDS AND EARTH-WORKS.

Correspondence of the American Anthropological Association.

MOUNDS IN WASHINGTON TERRITORY.

By Rev. M. ELLIS, Shokomish, Washington Territory.

My studies, thus far, have been directed mainly to the Ethnology of the Twana and Clallam Indians, — as bearing on the Unity of the Race, on which I delivered an address before Pacific University, in Oregon, last year, and also the Indian Religions — as bearing on the same point.

There are some very curious natural mounds about fifteen miles from Olympia, and forty-five miles from my residence, of which mention is made in "Foster's Pre-historic Races of America."

When the North Pacific Railroad was graded through them, I believe a few Indian relics were found in them, and some men and newspapers put forth the idea that they were built by the Indians. DR. FOSTER simply took the idea, as he saw it, in a British Columbia paper. But all classes of men — geologists, scientific and practical, have given up that idea now. They are evidently a geological formation, but a strange one. This answers questions 1, 2 and 3.

Relics, stone implements, hatchets and chisels, are found, most of which were used both for axes and adzes, according to Indian statement. Of weapons, arrows and spear heads are found. Of utensils, stone pestles are found. These were all in use at the beginning of the present century and later, by the present tribes, but were mostly dropped as soon as the white race came and brought a superior article.

A few specimens of carved wood are found, only one of which as far as I know, was under ground. I know of nothing pre-historic of silver, copper, cloth, shell, bone or ivory.

I have never heard of any pottery or idols here of any kind, or pictures on rocks or shells, except what belong to the present Indians.

I have no pre-historic skeletons. I know of graveyards at Port Angelos and Dungeness in Clallam County, which are so old that the present Indians do not know whose they are, only they undoubtedly believe them to be the graves of their ancestors. I really know of nothing hereabouts which shows any signs of any race ever living here previous to the present tribes of Indians.

MOUNDS IN INDIAN TERRITORY.

Rev. H. F. BUCKNER, of Eufaula, Indian Territory.

This country abounds in mounds that have not been explored, some of them remarkable for size. There are many foot and hand prints in solid rocks. There are Hieroglyphics on rocks almost inaccessible. There are European graves older than the knowledge or tradition of these people. I have sent to different museums pottery and pipes of curious form.

Rev. W. S. ROBERTSON, Muskokee P. O., Indian Territory, writes: "There are various Indian remains scattered over this region. 'Mounds,' 'cities,' 'graves,' 'altars,' 'cave houses,' (?) which have never been examined."

MOUNDS IN MISSOURI.

By HORACE L. MASON, Corning, Missouri.

The "Mound Builders" occupied and were numerous in this portion of the Missouri River Valley, latitude 40° 17' North, longitude, 95° 24' West from Greenwich. Extensive mounds now exist. I have examined their contents to some extent, and sent to the Smithsonian Institute specimens of pottery that I have taken out of them. The only indication of human remains were teeth in great numbers. They were so ancient that the bones were entirely decomposed. The pottery specimens were mostly spherical shaped pots, holding about one gallon, made of material, when freshly broken, resembling slate, and from one-fourth to one-third of an inch in thickness. The outside looked as though they had been subjected to the action of fire; as though used for cooking, having an eye to accommodate a bail, resembling much in form and shape the cast iron pot of the present day, used for cooking over the fire-place. Also, open dishes from two to three inches deep, and six to eight inches in diameter, and rudely ornamented while in a plastic state, and made of the same material as before described, and about one-fourth of an inch in thickness.

One mound in this immediate vicinity, in a good state of preservation, from one hundred to one hundred and ten feet in diameter, and six to eight feet high, situate on the Missouri bottom prairie, originally about three-fourths of a mile from the run, and near two miles to the foot of the bluffs.

It was formed of the soil or alluvial deposit, like the bottom lands here, except a layer at the bottom about six inches in thickness, which was brought from the bluffs. It is easily distinguished from the soil on the bottom called geologically "loess or bluff

formations," a finely pulverized marl, almost as white as sand. It must have been prepared in some manner, as when reached by the spade. We could hardly cut through it; it broke in chunks like mortar. Stone implements are rarely found here. The few specimens I have seen are entirely different from specimens frequent and numerous found in Ohio.

MOUNDS IN INDIANA.

By ED. R. QUICK, Brookville, Indiana.

The valley of the White Water River contains some terraces. There are mounds on the two highest of these and on the tops of the hills. I have opened several, finding them to be sepulchral—containing bones, charred and re-charred; a few curved and a few chipped stones. They also contain much charcoal and other evidence of fire. In one case there was a stick, eight or ten inches thick, completely charred. Above this was a layer of clay which had been subjected to a heat so intense that it was in some places completely vitrified or glassy in appearance.

The mounds are generally low and situated in pairs, a larger and a smaller one, are together on some prominent point.

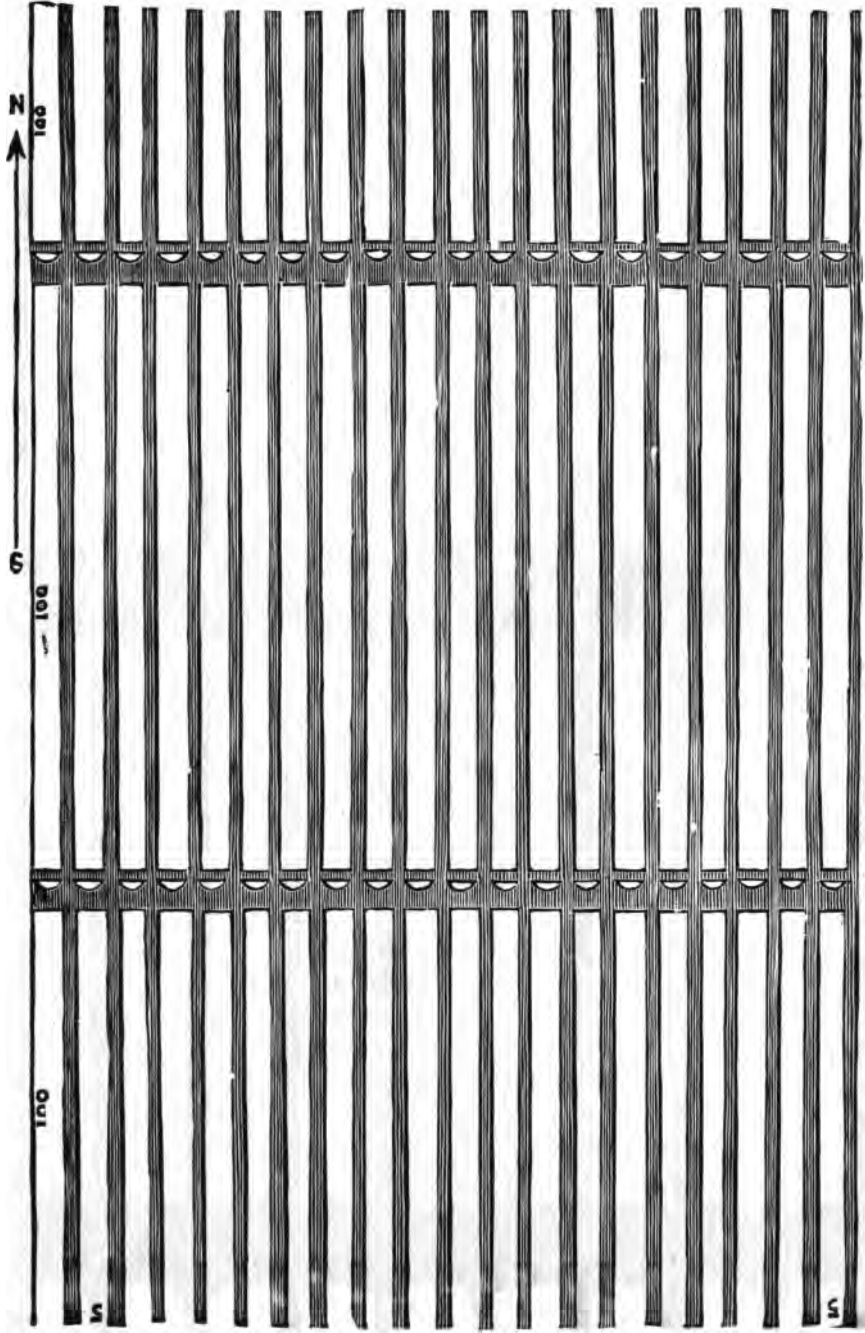
The stone mounds consist of stone and earth, with which are mingled great quantities of bones of men, animals, birds, and reptiles. I know of but one "enclosure" in our county. It is situated on an *almost* isolated hill, about three hundred and fifty feet above the level of the river. The level surface of the hill, containing about fifteen acres, is in the shape of a horse-shoe, the embankments being a semi-circle joining the ends. The ditch is on the outside.

We find a great many axes, of all sizes, from a few ounces to thirteen pounds in weight; also fleshers, chisels, gouges, scrapers, etc. In some fields almost innumerable arrow-heads and spear-heads are found. We find a few pipes, some gorgets, and double-edged or double-pointed implements, like tomahawks, but too light to do service as such.

I also have one of the so-called "boat-form ornaments." I send you drawing of an ornament in my collection. It is of blue slate, banded with black, and shows evidence of rasping and scouring into its present shape. It is perfectly symmetrical in form and shape. We find broken pottery scattered over the river bottoms. Old bones which I have found were so decomposed that nothing satisfactory could be determined with regard to them. At some future time I can furnish casts of my best pieces.

Ancient Garden Beds, St. Joseph Riv. Valley, Mich.

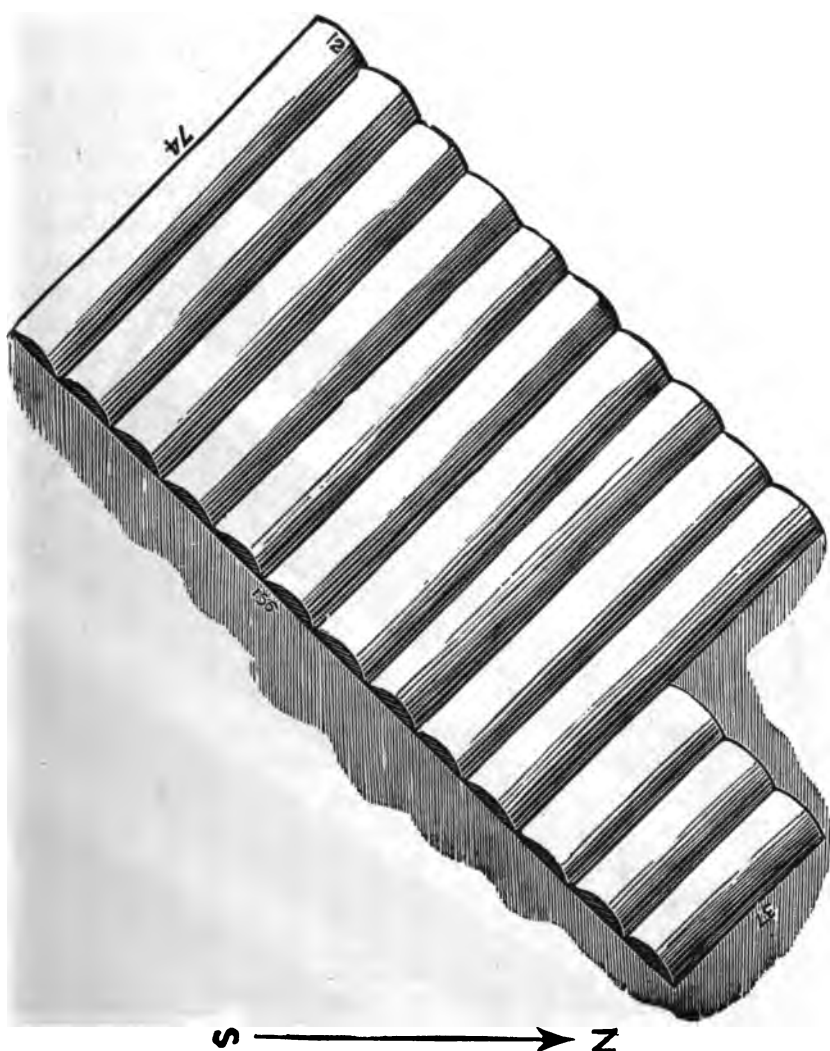
Fig. 4.



[Scale 32 ft. to 1 inch.]

Ancient Garden Beds, Grand River Valley, Michigan.

FIG. 1.





that it shall be as secret and with as little ceremony as possible. If there is time and opportunity the dead body is carried to a distance, and to the most unfrequented neighborhood and there hidden under the root or trunk of a fallen tree, or covered with rotten fragments of wood, brush, leaves or rocks. Toward the crest of some timbered mountain is the favorite place of deposit, but it may be in a bunch of willows or a thicket of young pines near the camp or beside the trail. They have no *burial places* known and revered as such.

3. Arrow heads of jasper or agate, axes, fleshers, chisels of stone, tomahawks, pipes, arrow and spear heads of iron (of course modern), mortars and pestles of tough volcanic stone, are found.

INDIAN TRAILS IN OHIO.

By J. R. WOODRUFF, Ravenna, O.

The Indian Trail of which I spoke in my other letter was the common thoroughfare traveled by the Indians going from Detroit to the Ohio river.

Beginning at Beaver, Pennsylvania, it enters this state at some point on the eastern boundary of Trumbull County, I think. Passing through Howland Springs it strikes Portage County, thence it traverses the northern part of Palmyra, Edinburgh; crosses the Cuyahoga river in Franklin. Passes through Northampton, Summit Co., and so on through to Sandusky and Detroit. These facts I obtained from the County Hist. Atlas. This work also states that in Palmyra, stone heaps were found along the trail, under which were discovered human skeletons. For the direction of the trail after crossing Edinburgh township, I am indebted to my imagination.

However, taking into consideration the relative positions of places which it passes through after leaving the county, I think I have come pretty near to the exact location. There were camping grounds in Windham and Hiram townships, previous to the war of 1812, but after that date the county was free from Indians.

MODERN INDIAN TRIBES

In the vicinity of the Ancient Mural Remains of Utah and Arizona.

BY EDWIN A. BARBER.

In traversing the district which abounds in the pre-historic ruined buildings of the ancient Pueblo Race, the explorer will frequently observe, instead of the architecture of the ancient people, buildings thrown hurriedly together, or built with loose stones piled one on the other, and *dry laid*. Occasionally these occur in the valleys, where round towers may be seen, whose walls have, for the most part, fallen down; but such structures are found more frequently among the cliffs or on the summits of high buttes. Sometimes caves or recesses in the rocks have been fortified by temporary stone breast-works and large rectangular enclosures may be met with on high points. It is not an unusual thing too see the ancient ruins repaired in this way, but the original portions, still firmly cemented with adobe mortar, can be readily distinguished from the gaps which have been superficially filled in at a much more recent date. This is known to be the works of the Navajo Indians, who, at one time, occupied all of this country, and may be still found in the vicinity of some of the ruins. Taking advantage of these old strong-holds, both in the valleys and among the cliffs, they occupied, for some time, many of them, rifling all of their contents, destroying some and repairing others for their own uses; and in those places where these buildings did not occur, they piled up others in a rude imitation of them.

It has been conjectured that the Navajoes are a retrogressive branch of the house-building or pueblo race.* Certain it is that they are an industrious, thriving tribe—tilling and irrigating the soil, and raising much corn, quantities of melons and some kinds of vegetables, doing considerable at blacksmithing, and producing the famous Navajo bridle—bits which are so highly valued by all of the Western tribes. They also weave blankets and mats, make leather whips and excellent buckskin lariats, and manufacture

*The word *Navajo* is said to signify "men." Don Jose Cortez, in his report written in 1799, stated that at that time or previously the Navajo tribes was not nomadic but resided in fixed habitations in communities or pueblos, each possessing a name. If this statement be true, the tribe has degenerated sadly in the past three quarters of a century; and it would seem that they descended from a partially civilized people, from whom they learned their arts.

very good water-vessels both of clay and willow twigs. In the art of blanket-making they are not surpassed by any other of the American tribes, and the woolen blankets, made from the wool of their flocks, are ornamented with stripes and geometrical designs, with the most brilliant, beautiful and durable colors, being almost entirely water-proof.

The men of the tribe are large, well-formed and pleasing, and as a tribe, are wealthy and provident. Their pastoral and agricultural habits, however, lead them a wandering life, as they must be almost constantly moving with their large flocks and herds to new grazing lands. Thus, they erect but temporary "*hogans*" or dome-shaped wigwams, which are usually made of cedar or pine branches, thrown carelessly together.

The Navajoes have, at different times, been engaged in wars against the Mexicans, the Utes, the Apaches, and the United States troops. Only a comparatively few years ago they were occupied in fighting the whites, and the military, with the assistance of some of the Ute Indians, drove them for a while farther south from their fastnesses in the ruins along, and north of, the valley of the Rio San Juan. Since that time they have been peaceable, although they are always inclined to thieving, and at regular intervals bands of them make clandestine visits to the Mormons in Utah, whom they hate most implacably, and usually return with a lot of stolen horses.

Navajo inscriptions and pictographs are common among the ancient ruins. On the rocks may be seen many etchings, traditional or meaningless; but they have a more recent appearance than the *ancient* picture-writings and can be readily distinguished from the latter. The character of these hieroglyphics is entirely different from those of the ancients. The figures, usually representing horses or objects of recent introduction. In one place near the Moqui pueblos, in Arizona, I noticed a group of horses painted in white, far up on a vertical rock of red sand-stone. At the mouth of the Rio de Chelly is a collection of paintings representing men and horses, and another figure resembling a painting of the globe, colored in red and white.

It is now generally believed that the Navajoes were once a pueblo tribe, a branch, probably, of the Toltecs, who have become degenerated by contact with tribes of nomads. Mr. Baldwin believes

them to have descended from one of the ancient civilized races. It is not unlikely that they sprung from the very people who built the stone houses throughout this territory. At least, in some of their habits and customs this modern tribe closely resembles the old Pueblo race. The Navajoes extend through New Mexico and far west into the interior of Arizona; and from the San Juan River on the north, several hundreds of miles south, covering, possibly, a tract of country two hundred by three hundred miles in extent, or sixty thousand square miles.

The *Ute* tribe of Indians extends along western Colorado and eastern Utah, and wandering bands of them occasionally penetrate into the ruined districts of Arizona and New Mexico, where they visit and dismantle these old houses of all they contain. The majority of all the ruins which we examined throughout the country, had been entered, before the Hayden Survey visited them in 1875, either by the Navajoes or Utes, and only in a few instances did we discover an implement or utensil of any kind, such as an arrow-head, a skin-scaper, or an unbroken vessel, *in the interiors* of houses. On all sides can be seen indications of the destruction perpetrated by these Indians. The interiors of buildings have been burned out and the wood-work almost entirely demolished; while the very walls have, in many cases, been overthrown or damaged. Little is left the explorer, save the bare, blackened sides of the despoiled abodes; although the intrepid adventurer is occasionally rewarded for his dangerous climb by beholding a house which, in all probability, has never been entered since its original inhabitants departed. Roving bands of Utes, Pah-Utes, Navajoes and Apaches, may sometimes be met, and in south-eastern Utah a renegade party, composed of out-laws from all these tribes, occupied one of the dry, barren canons, in the midst of the ancient remains, subsisting on rabbits, small birds, corn, and whatever water they may be able to find among the parched rocks of the desert. The old foundations and graves are dug into by them, and specimens of entire earthen-ware vessels are appropriated for their own every day use. The very children rifle the ancient remains and carry off most of the arrow-heads and the best pieces of pottery for toys, or else totally destroy them.

THE DISCOVERY OF THE OHIO.

Early Maps of the Great West.

BY STEPHEN D. PEET.

Mr. C. C. Baldwin, of Cleveland, has been for many years engaged in gathering maps of the West. He has now in possession probably the largest collection of the kind in the world. There are other collections more extensive; those in the library of Harvard College, in the State Library at Albany, and those which have been gathered by the Geographical Society at New York being in other respects much more valuable; but for the one object of illustrating the interior of the Continent of North America, this collection is well nigh complete.

The maps are now at the residence of Mr. Baldwin, and in the library of the Northern Ohio Historical Society, of which he is the Secretary. They exist in a great variety of shapes and bear many different dates, but comprise nearly all the early maps of the interior ever published. Some of them are found in books, either in large folios or in quartos, in 12 mos. or in small 16 mos., such as books of travels, of voyages, of early discoveries, or in early geographies and histories. Others are found in map form, either as large wall maps or as single sheets.

There are also a few tracings or copies of maps which cannot be secured, and the collector is now negotiating for the purchase of a number of manuscript maps which have never been published. The writer has had opportunity of examining them, and is happy to bear testimony to the diligence and good skill exercised in making the collection complete, as well as to the great value of the collection.

There is a great amount of history in these old maps. As an illustration of the different periods of the early history of the continent, nothing could be better; in fact, the geography of this period was history.

The maps may be divided into different classes according to the dates of their publication. Classifying them in this manner, they represent the different periods of early history, and the study of them is valuable on that account. By grouping them they give us pictures of the country at the various periods, and in their succession

portray the progress of discovery, conquest and settlement. We divide them into five classes:

The first bears date from 1560 to 1626, and may be regarded as descriptive of the period of the discovery of the continent.

The second bears date from 1626 to 1730, and is descriptive of the early exploration into the interior.

The third bears date from 1703 to 1765, and will give us a view of the contest of claims on the continent among the European nations.

The fourth bears date from 1765 to 1790, and is descriptive of the location of the Indian tribes in the interior.

The fifth bears date from 1790 to 1820, and is descriptive of the first settlement of the same region.

The characteristics and peculiarities of the maps will be described under this classification, but the first two series will be especially dwelt upon in this article.

DESCRIPTION OF THE MAPS.

The first class covers the period of *the Discovery*.* The peculiarity of them all is, that they are very correct in giving the contour of the continent, but they give no description of the interior. The reason for this is that the first discoverers and conquerors were familiar with the coast, but knew nothing of the vast interior. There are several of this class; one,† dated A. D. 1569, describes the continent very correctly in its outlines, and we are surprised at the resemblance to the modern atlases in this respect. The coast line of the Atlantic and Pacific, and of the Gulf of Mexico, are given quite correctly, and even the Gulf of California is portrayed on it; but the interior is laid down as though it were all blank space. There is however in it a fortunate guess. Though there was an evident ignorance of the interior, there is a river traced across the map which might easily be taken for the St. Lawrence. There is this difference however: it is the only river on the continent, and it rises in the vicinity of the Rocky Mountains, and runs in a straight line across the continent due northeast until it empties into the Gulf of St. Lawrence in the proper place. There are no lakes, no mountains and no other rivers. Another map is very similar to this, but in it the interior is covered with vast ranges of mountains,

* See No. twenty-five of the papers of Western Reserve and N. O. Hist. Soc.

† Mercators.

and contains the names of Arcadia, France and Spain scattered indiscriminately over it.

These two maps are alike in that North America has nearly its true shape, but South America looks more like Australia than it does the southern continent. The Gulf of Mexico, the Isthmus of Yucatan and Honduras are very correct.

There is another in the collection which resembles the two spoken of, but has a still more novel description of the interior. There is a river rising in the center of the continent, and running to the northeast to the Gulf of St. Lawrence; another also starts from the same vicinity and runs south and empties into the Gulf of Mexico near New Orleans, while the Gulf of California is so situated that an inlet seems also to arise in the same central point. A range of mountains in the interior is the source of all these bodies of water.

Under the second class we have arranged those which bear dates from 1626 to 1700. They are descriptive of the early *explorations*. These are the first maps in existence which give us any proper view of the interior.

At the head of this class we place Champlain's map, published in 1632. An earlier map was published by Champlain in 1609, and Cartier, the noted French voyager, had described the St. Lawrence, which he entered as early as 1534; but this is really the first which contains any description of the interior. In it the lakes are for the first time portrayed. They are laid down in such a way as to show that the author was not familiar with them, but had drawn them as they were described to him by the native Indians. The River St. Lawrence and Lake Champlain are quite accurately located, but the Great Lakes are portrayed as if they extended across the whole continent. Lake Ontario and Lake Erie are drawn as if they were only one, and look scarcely wider than their outlet, the St. Lawrence. They are called in their collective capacity, "Lac St. Louis." Niagara Falls are not mentioned, but to the west and north appears a great lake or sea which is called "Mer Douce," or Sweet Sea. This was Lake Huron, but it was fully five times as large as it ought to be. Westward of these is still another lake, probably meant for Lake Superior, but called "Grand Lac." The "Ottawa River" is laid down on the map, but a little north of the river the continent abruptly ends and a wide sea appears, with great whales and ships sailing across from one ocean to the other. In the far

northwest is a great sea called the "Mer de Nort Glaciale." According to this map, then, the Northwest Passage was discovered soon after the landing of the Pilgrim Fathers. Champlain's map is found in the Documentary History of New York, and in Champlain's works. It is interesting, for it was the first attempts to draw the shape and locality of the Great Lakes, or to describe the interior.

The especial value of the map is that the Indian tribes are located, as well as the Great Lakes. The Iroquois are assigned to their proper place just west of Lake Champlain. The Hurons are also located north of the "Lac St. Louis," or Huron. The map locates the "Neuter" nation in a locality which was really occupied by the Eries just south of Lake Erie, in the eastern part of Ohio. Father Lalle-mont, the Jesuit, has described this tribe, and they are supposed to have occupied the north and south sides of Lake Erie, but this is the first and only mention made of them on a map in this place.

The Algonquins are located north of the lakes. The tribe of "Des Puans" is placed east of Lake Huron, and savages and buffaloes are mentioned as inhabiting the region about Illinois and Indiana.

We next come to a very interesting map, and one which was quite the standard for a number of years. It is published for G. Sanson, "Geog'r Ordinaire du Roy," at Paris, in A. D. 1669. It is remarkable in that it gives the whole continent instead of a part, as Champlain's did, and has a description of the portions which were claimed by the different European monarchs by right of discovery. On this map it appears that all the north half of the continent was claimed by the French, and the district of New France covers all the region north and south of the Great Lakes as far south as to Port Royal and Virginia, embracing New England itself. Next south of this were the possessions of the Spanish King; under the name of Florida a great territory is marked out extending from the vicinity of Kentucky and embracing all the continent south of it as far west as Mexico.

New Spain is marked on this map in the vicinity of Yucatan and Central America, and Mexico and New Mexico are also names applied to the districts which still hold them.

The inaccuracy of the map is the same as that of Champlain's — the size of Lake Huron; otherwise the lakes are quite correctly portrayed, and Niagara Falls are now mentioned.

The names Ontario, Erie or Cat and Superior are given, but Lake Huron still goes by the name of "Mer Douce," or "Fresh Water Sea."

Lake Michigan is not yet laid down any more than in the preceding. Green Bay however appears for the first time by the name of "Bay des Puans," but is drawn much larger than it really is. The Upper Mississippi and the Ohio had not been discovered, nor had Lake Michigan been traversed or the Illinois River, but the Jesuits had visited Green Bay, and this is shown, while the larger lake and those rivers do not appear.

There is one remarkable thing about this map. The Ohio River was not known at the time, but there is a river which by a mistake represents it. This starts in a lake about where Chautauque is, and runs south, as the Alleghany does, to the vicinity of Pittsburgh, and turns northward and empties into Lake Erie about where Cleveland is. It seems quite novel certainly to see the Ohio River running into Lake Erie.

Another still more remarkable thing about Sanson's map is that the Appalachian Mountains are represented as extending east and west directly across the continent from the vicinity of Virginia, and all the rivers flow either north or south from these mountains. It seems very singular too to see the Mississippi starting near St. Louis at the base of a range of mountains, while all the rivers which now flow into the Ohio are represented as running northward to the Great Lakes.

The value of this map is in this, that for the first time the Erie tribe of Indians is located. They are found in the eastern part of Ohio, just south of Lake Erie, and are called the Erie-chronons.

Sanson's map is a novel one, as it has the general contour of the continent very correct, and the lakes are accurately laid down, but there is no Mississippi or Ohio on it. It however gives all that was known of the interior at the time.

We next come to a series of maps which present new features to the geography of the interior. These are the maps prepared from the accounts given by Lasalle, Hennepin and Marquette from their explorations and discoveries.

The first of the series, published in Paris A. D. 1683, is one prepared by Hennepin, for his first edition. This is a valuable map; it gives the whole of North America. The continent is, according to it, divided among the three nations of Europe, but

the largest part is claimed by France by right of discovery, under the name of Louisiana. The French possessions under this name stretch across the whole continent, and embrace all the region of the lakes and the vast interior. A small part is marked under the name of Florida in one corner, while Mexico and "Nouvelle Espagne" are still left in the southwest as belonging to Spain. England is mentioned, and its claims upon the New England States recognized under the title of "Angleterre." The Dutch claims are also shown, and the name of "Hollande" is marked on New York and vicinity.

The lakes are portrayed on Hennepin's map, though Lake Erie has grown so as to take in all the State of Ohio, and Lake Huron has dwindled into its true size. The Upper Mississippi is portrayed quite correctly, as it rises west and north of Lake Superior. The Missouri runs into it, and the Outagamie, or Fox, is represented as flowing into Green Bay, with a short portage between it and the Missouri. A large river runs into the Mississippi from the east about where the Illinois does, and there is no doubt that the latter was the river intended. Lake Michigan however is incorrect, as it spreads into two arms, and a large river flows from the north into it. The Mississippi does not reach the Gulf, but ends abruptly in the middle of the continent.

The names of the lakes and rivers are remarkable. Lake Ontario is called Frontenac, Lake Erie, Lac de Conty, or Erie; Lake Huron, Lac de Orleans, or Huron; Lake Superior, Lac de Conde, or Superieur; Lake Michigan, Lac Dauphin, or Illinois. Green Bay is still called Bay des Puans, and the two rivers are spelled Outowgamis and Ouisconsin. There are mountains either side of the Mississippi. The river is called Colbert, from the name of the French Minister, and the Illinois is called Souigonillet. There are four forts on the map—Fort Frontenac on Lake Ontario, Fort de Conty at Niagara, Fort Miami, on Lake Michigan, and the fort built by La Salle on the Illinois, and called Creve Coeur, or the "Broken Heart."

There is this remarkable thing about Hennepin's first map: Hennepin and Marquette had discovered the upper Mississippi, but it appears that the former wanted to be considered the discoverer of the whole river. Accordingly, after he had published his first map, he prepared another with the Mississippi portrayed throughout its

whole length. He also pretended to have explored the southern part of the river and country, and wrote a description of it.

La Salle was much more of an explorer. He, in 1682, with three others, went down the Mississippi and on the 9th day of April passed through its mouth into the open sea and returned.

The next year he sailed from France, expecting to reach the river by the sea or the gulf, but unfortunately sailed past the mouth, and after suffering shipwreck and great hardships was killed by his men in Texas.

There was however a companion with him named Joutel, who preserved a narrative of La Salle's voyages.

Hennepin learned something of this narrative, and used it in preparing his second map and record. The two maps of Hennepin, one published in 1683, and the other in Utrecht in 1698, are very unlike, but the first is regarded as the most reliable. His last map and account of the country has been the most common. Joutel's narrative was published in A. D. 1714. A map by Marquette is in existence. It was prepared A. D., 1673.

It is incomplete, but has this advantage, that Lake Michigan is correctly drawn on it, and is not on Hennepin's.

THE PROGRESS OF DISCOVERY.

In references to these two classes of maps it should be said that it is very interesting to notice the progress of discovery, both in the outlines of the continent and the delineation of the features of the interior. The first series illustrates how crude were the ideas of the discoverers, but shows at the same time a rapid progress of geographical knowledge.

At first the continent was depicted as merely an arm or an eastern extension of Asia, afterward it appears as an island in the midst of the ocean. Then it assumed the appearance of a continent but much broader in proportion to its length, than it really is, with South America, as has been mentioned, having much the same shape as the present Australia. It soon, however, assumed a more correct outline, and other maps of the series picture the Northern and Southern continent with the Gulf between—though it is some time before South America assumes the proper dimensions as compared with North America, or is understood in its real shape.

Throughout the whole period there was the greatest ignorance of the interior, and the maps were evidently made from imagination.

At first, all that is shown is the general contour—while in the interior an indiscriminate mass of mountains and forests cover the surface. Not a river or a lake relieves the bare waste.

Afterward, the river St. Lawrence and the Lower Mississippi, the Gulf of Mexico, and Gulf of California, appear on the maps. All that seems to have been known, however, of the rivers, was their mouths. It was strange to see two or three long rivers extending across the continent, each rising in one point near the centre. According to these maps, the locality of St. Louis was extremely favored. There were mountains in this vicinity and three different rivers ran from this centre—one to the Gulf of St. Lawrence, the other to the Gulf of Mexico, and the third to the Gulf of California.

These rivers have no branches and are merely long, straight channels, laid down by guessing at them.

The second class is interesting also on account of its description of the progress of discovery. This time, the discovery is in the interior. The progress of *exploration* in the interior is portrayed very strikingly. At first the mouths of the rivers are laid down somewhat correctly, but the lakes and mountains are dropped down accidentally wherever most convenient. The mountains generally cross the continent from east to west. The Mississippi is a short stream flowing south from them, occasionally represented, however, as having two channels instead of one. The only lake which is laid down at first, is the Lac de Iroquois or Ontario. This was discovered or heard about by Champlain, who became familiar with the St. Lawrence, and wandered into some portions of New York state. Changes soon occur. The Ottawa river is laid down; lake Huron appears; then lake Erie; after that Lac Superior, and last of all, lake Michigan, or the Lac de Illinois.

It is novel, however, to see lake Huron surpassing in size all of the rest put together, and lake Michigan forming an arm to the west of it; while the Bay des Puans or Green Bay is twice too large. Lake Erie goes through a variety of changes; sometimes larger and sometimes smaller. Its shape is extremely irregular and angular. The names of the lakes are also very changeable. At one time they bear the names of the French Ministers; again they assume the names of the Indian Tribes in the vicinity; and again, they bear two or three names at the same time.

Before the end of this period, the lakes have assumed their proper shape, and the *rivers* begin to appear in due form. Here the same progress of discovery is manifest. At first, the Mississippi river ends without a mouth. This was as Marquette left it on his first voyage. Hennepin's map afterward represents its whole course. The Missouri river has a novel appearance. It is a straight river, with a wide channel flowing directly east. Its head waters are not laid down, but it is called the "Long River."

The progress of the discovery of the rivers was rapid. During this period, from A. D. 1620 to A. D. 1703, nearly all the rivers of the interior are laid down correctly, and the lakes assume their proper place and shape.

The only exception to this is the Ohio River. This river does not appear in the first two classes of maps at all (1560 to 1703). The coasts have been laid down correctly; the gulfs depicted in their proper place; the St. Lawrence river has been described; the lakes appear one after another; the Upper Mississippi also has also been discovered; even the Missouri River is laid down under the name of the "Long River," and the Rocky Mountains are located, but no Ohio River. Two hundred years have passed; the explorations of the interior have continued, but no *evidence* is given that this beautiful stream was known.

IGNORANCE OF THE OHIO.

As early as 1633, Mercator's map represents a branch of the Mississippi as flowing from the east, but the river is south of the Appalachian Mountains which on this map run east and west, and is not named.

In 1633 Joannis Blaeu of Amsterdam published a map, but he does not mention the Ohio. Vanderbeste, in 1636, sketches the lakes, calling Lake Erie by the new name, "Lake Felis," and represents the Appalachian Mountains as running around west of it, and up into the Peninsula of Michigan; but he only represents a river, east of the lake, as taking a southerly and westerly course, and emptying its waters into it near Cleveland. An English geography also, in 1680, represents a river with two branches as rising west of Lake Erie, and flowing into the Mississippi; according to it the mountains extend north and south across the continent from Michigan to Florida, or from Saginaw Bay to the Gulf of Mexico, while the river to the west of them is very short and has no name.

John Baptist Hondius of Amsterdam, in A. D. 1687, represents a chain of mountains in the place of the river; and Lahontan, in A. D. 1703, portrays a lake east of Lake Erie, with a river running south, which may have been intended to represent the Susquehanna.

Not until 1703 did the Wabash appear. The first map that describes it at all is Lahontan's of that year. This is a map of the Lakes, and does not extend far enough south to include the course of the Ohio; but in one corner of it, west of Lake Erie, there appears a stream which bears the name "Ou-bache," and it now becomes evident that at least a branch of the Ohio is known. Up to this date then we have only fragments of the Ohio, but no delineation of its whole course. We now come to the

DISCOVERY OF THE OHIO.

The first one which portrays the Ohio at all correctly is De L. Isles, in a map published at Amsterdam in A. D. 1708. During the same year, Vischer's Atlas contained Mortier's map, which also has the river Ohio under the name "Ho Hio." This De L. Isle's map seems to have served as a standard, as Sanson's had done before it. A large number of maps are copied from it, and it is very reliable.

In 1721 there appeared the great work called the "English Geography." This contains three maps of North America, one of them being a general map of the entire continent, another representing the English possessions, and a third the Mississippi Valley. In the first, a river is placed about half way between the mountains and the Gulf of Mexico; in the second, it does not appear at all, but a range of mountains takes its place, and the nations of the Filians are occupying the land; but in the third, which is a copy of De L. Isle's map, the Ohio is in its proper place, having this difference however that it is called "Ohio" about as far down as the Wabash, and there is called "Ou-bache."

There are besides two large rivers running parallel to the "Ou-bache," or "St. Jerome," draining a very wide valley between the Cumberland Mountains and the Lakes.

The Ohio rises in New York, but it shares the great valley with two other streams. The names of the latter are the river of the "Chouanons" and the "Cosquinambeau." They were evidently

designed for the Cumberland and Tennessee. The mountains are south of all the rivers, and extend as far west as the Mississippi.

This map, taken from De L. Isles A.D. 1708, is so remarkable that it deserves description, aside from the question of the course and name of the Ohio. The first thing noticeable in it is that it contains the track of Ferdinand de Soto, made in A. D. 1540. This runs parallel with the mountains and twists south and north, and extends far out into the prairies beyond the Mississippi, but turns back and ends at the river.

To the west of the Mississippi River are seen the River Del Norte, the Red River, the Arkansas and Missouri. The Illinois is in its proper place, but the Chicagou is a branch of it rising near Lake Michigan. The Rock river takes a straight course west, about where the line of the State of Wisconsin now is, and empties into the Mississippi near Galena. It is called "River a la Roche," or "Crystal River." The Fox River is called "Renards," and the Wisconsin the "Ou-isconsin."

The location of the tribes is as follows: The Iroquois first; next the "Nation du Chat," on Lake Erie; near Detroit, the "Missis-saugues;" the "Poutouatamies," in the vicinity of St. Josephs, or Lake Michigan; the Miamis, south of them; the "Fire" nation, near Chicago; and west of Lake Michigan, a tribe called the "Mascoutens." The Illinois are near the Mississippi, and the "Renards" in the vicinity of Green Bay; while in the Far West is the country of the "Apaches," "Paducahs" and Osages.

The Indian villages are located as follows: Chicagou is on Lake Michigan, near its head, and has two houses in it; "Mileki" River is the first one north of Chicagou, and a village on it is called "Miskouakimina;" "Peoria" is on the Illinois River; "Caouquias" on the Mississippi; "Caskaquias," further south on the same river. An "Ancient Fort" is located near the mouth of the Wabash; while opposite the Missouri are "Flower Pots and Castles Ruined." "Quicapou" is on the Rock River, near where Rockford is now; and an ancient village of the Illinois is on the Illinois River somewhere south of Joliet. Between the Ohio and the Cumberland, in the wide valley represented north of the Cumberland Mountains, was a "desert one hundred and twenty leagues in compass, where the Illinois hunt cows" (buffaloes). Lake Sandouskie is situated just south of Lake Erie, where Sandusky is

now. The "Andastes" are located east of the Alleghany Mountains; and "Canage," a "large Indian Fort," is on the Susquehannah. "The Falls of Niagara, two hundred feet high," are mentioned. The "Sonontouan" tribe is located just east of the Falls. "Onontaque" is situated among a series of small lakes, and "Goyogouen" in the midst of the Iroquois land.

There are several copies of this map of De L. Isle's in Mr. Baldwin's collection.

ERRORS IN THE MAPS OF THE OHIO.

Other maps, which were published after this, are not so correct. They represent the Ohio very erroneously, showing, as yet, a strange ignorance of the river and its tributaries. A few of these errors are here referred to. John Senex, A. D. 1710, Lond, represented the "Ou bache," or "Belle" river rising east of Lake Erie; and a branch of it in a lake called "Onasont." The river runs parallel with Lake Erie and quite near it.

The Illinois flows parallel with the Ohio on the north side, and another long river called "Acansea," runs parallel with it on the south side, and south of this are the Alleghany mountains which still run east and west near the place of the Appalachians, and extend as far as to the Mississippi. Among these mountains are the "Tionontatecagas who inhabit caves to defend themselves from the great cat!" A river runs from the southeast through these mountains emptying into the Ohio or "Acansea," which is said to be "the road which the French take to go to Carolana."

In the year A. D. 1720, H. Moll prepared a map, in which the Ohio is called the Sault River, and the Mississippi, the St. Louis.

Daniel Coxe, in 1726, prepared a map of "Carolana," in which he represents four rivers running parallel with one another from the vicinity of the Alleghany Mountains, and coming together at a small lake which is situated near the "Misachebi," (Mississippi). The Ohio on this map arises in New York, and the "Oubache," near Cleveland, just south of Lake Erie.

M. Bellin, in 1744, prepared a map of Louisiana, and the course of the Mississippi, which appeared in "Charlevoix History." He gives the Ohio for the first time, with any degree of correctness. The river is now called "L'oiio, a La Belle River." The "Ou bache," or "St. Jerome," empties into it, and is now a branch rising near the head of Lake Erie. The "Cheraquis" (Cumberland) and

the "Reviere des Anciens Chouanons" (Tennessee) are branches on the south.

In 1755, Le Sr. D'Anville, prepared for Louis Phillippe a series of maps. These are embodied in an atlas containing forty-three maps, bearing dates from A. D. 1755 to A. D. 1762. The valley of the Ohio is by this Geographer depicted, and nearly all its branches are mentioned. The river is too near the lake and runs with more of an angle, and less of a bend in the vicinity of Pittsburgh, than is correct. The Alleghany is named and rises east of Lake Erie, near the Cayuga Lake. Chatauqua Lake is called "Tjadakoin," and its outlet is called "Canouagan." But the river "Aux Beufs," (Beaver), "Chenique," (Chenango), are about south of the Cuyahoga and the "Muskegan" south of the Sandusky, while the Miami is still farther west.

This De Anville's map became the standard, as Sanson's and De L. Isle's had been before it. It was manifestly imperfect, but was regarded with favor as it was produced with royal sanction, and was the most correct map published thus far.

It remained, however, for two Americans to prepare the first correct maps of the Ohio River. These were Thomas Evans and John Fitch, the latter of whom is known for his efforts at early steamboat navigation. The map prepared by Mr. Evans is worthy of description. According to it the Ohio rises in the state of New York, the Alleghany or "Yoxiogany," and the Monongehela joined it at Fort Duquesne.

Jadaxque Lake, (Chatauqua), the French Creek, and the Venango River, the Beaver and Muskingum are the head waters; while the Scioto, Little Miniami, Great Miniami, and the "Quoaxtana" or Wabash are branches of the Ohio. On this map there are several Portages from Lake Erie to the Ohio. They are viz :

1. Lake Erie and Canonagy Creek (Chatauqua), twenty miles.
2. Presque Isle (Erie), and French Creek.
3. "Cuyahage" River (Cuyahoga) and Muskingum, at "French House," one mile.
4. Scioto River and Sandusky River, four miles.
5. Sandusky River and Miniami River, ten miles.
6. South branch of Miniami (Maumee), and west branch of Miniami.
7. Maumee and Wabash Rivers.
8. Wabash and St. Joseph Rivers.
9. Desplaines and Lake Michigan.

Thus, after two hundred and fifty years, the Ohio River is for the first time correctly portrayed on a map. It is very singular that this river should so long remain unknown. It took but about fifty years to discover the Great Lakes and accurately delineate them, and to portray the Mississippi throughout its whole length; but it took more than two hundred years to correctly portray the Ohio, with its course and its tributaries, and then only an American was able properly to do it.

In reference to the discovery of the Ohio, as made known by the maps, it should be said that the evidence is somewhat in dispute, and is not decisive. The river appears for the first time in Lahontan's map, edition of 1703; but it seems that this author has been discredited. Lahontan's first map had a lake which has been taken for Chatauqua, and supposed to be an indication of an acquaintance with the Upper Ohio at that time. But John Senex, in 1719, gave a similar picture of a lake and river east of Lake Erie, but the river is called "On-y-das," and is meant for Oneida. The river running south is called "Subsqungs," meaning probably the Susquehanna, while the "Seneks" (Senecas) are placed among the Filians (Eries).

No map published before 1708 contained any delineation of the whole River upon it. Sanson's map (1656 to 1690) gave a guess at it. The river rises in Lake Chautauque, but runs no farther south than Pittsburgh, and then runs into Lake Erie in the neighborhood of Cleveland. So, too, in Lahontan's map, the western branch, named the "Ou-bache" runs west of Lake Erie and flows south; but none of the maps show a familiarity with the course of the stream between these points.

The period of the exploration ended before the River appeared. There are good reasons for this. The river was remote from the ordinary line of the "fur trade," and could not be visited by those who were seeking for peltries. It was also remote from the scenes of the missionary labor of the Jesuits, who were located mainly north of the lakes, but had missions at Green Bay, and on Lake Superior. The French explorers, such as Marquette, Hennepin, and La Salle, as well as the Intendant Talon, and the French minister Colbert, imagined that a passage to the South Sea could be found by traveling westward; but they naturally went in the direction of the Great lakes, as these, with the Ottawa River, were the main thoroughfares of the Indian tribes with whom they were

familiar. There was a safer passage for them in that direction, as the Iriquois, who claimed the region south of Lake Erie and had control also of the tribes bordering on the Ohio, were hostile to the French.

English exploration did not extend into the interior during this period. Though colonies were settling along the sea coast, throughout the seventeenth century; yet there is no record that any one belonging to them ventured beyond the Alleghanies. The "Popham" Colony was located on the coast of Maine, as early as 1608, and Sir Walter Raleigh's Colony was established at Jamestown; but neither Ferdinand De Gorges, the founder of the first, nor Captain John Smith, the leader of the other ever became explorers much beyond the bounds of their own colony.

It is due to the French, that the discovery of nearly all the rivers and lakes of the interior was made. It was, however, not until the French began to claim, by virtue of these discoveries, that vast "domain" which lay beyond the Alleghanies, that maps, containing the Ohio River, were published. If there were those in manuscript prepared by the explorers, there were but few of them, and next to none, given to the public before the date of 1703. We now leave the study of this collection of maps.

DISCOVERER OF THE OHIO.

The evidence on the subject in question given by these maps is limited and unsatisfactory. Were it not for some unpublished maps which have not yet been given to the public, this subject would be in hopeless obscurity. Mr. Francis Parkman, in his valuable work, "Discoveries in the Great West," has, however, described some other maps, (unpublished as yet), which throw much light upon it. There is, to be sure, some discrepancy between these and other maps which were published later, and there is a conflict between some unpublished letters, by La Salle, and the narrative which purports to have been drawn from conversations of that great man; but of this, some future article must treat, and we leave the subject with the enquiry for others to answer—*Who discovered the Ohio River?*

ANTIQUITY OF MAN.

Was Man in America more ancient than the Mound Builders?

T. W. KINNEY, PORTSMOUTH, OHIO.

[Correspondence with the Editor.]

The question you ask is whether we have evidence in the country of a "Stone Age" preceding the Bronze or Copper.

I am satisfied in my own mind on the subject and hope to be able soon to furnish sufficient evidence to prove the existence of a Race much more ancient than the Mound Builders!

My intention is to commence with the evidence of what appears more ancient than the Mound Builders, and work up to the old camping ground of the more modern Indians.

You remember a remark you made at Mansfield relative to the existence of the Mastodon in this country.

Last summer, while digging a vault for drainage at the depot, of twenty-seven feet, the workmen found the tusk of a Mastodon. The piece was about four feet long and four inches in diameter at the thickest part. It was nearly all lost, having crumbled very much when exposed to the air. I have a large piece of it; also several flakes of flint found near the same depth.

I also have several of the flakes from other vaults, some of which show evidence of work.

Other Evidences.—The finding of a log at the depth of twenty-two feet. The log was burned at one end, and at the other end was a gap, same as an *axman's kerf*. Shell banks below the level of the base of Mound Builders' works, from six to fifteen feet. The fire hearths mentioned by COL. WHITTLESEY, also skulls mentioned by him, found in 1828, now in my possession, etc.

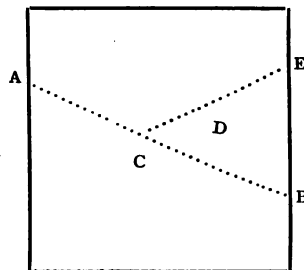
Another development.—First turn to your 'SQUIER and DAVIS, page 78 — plate 28, group B. Notice what is marked natural elevation, (DR. HEMPSTED has always claimed this to be artificial; very much elated over proof of this theory). This elevation has been selected by the country as place for building Children's Home. The excavations for cellar, 50x50 feet, four feet deep. Two feet below surface was discovered a layer of stone, about eighteen inches wide, extending from A to B, in drawing. The stones were about six to ten inches wide and two to three inches thick, all

standing on end and close together. At point C, three feet from surface was discovered a body of clay, circular in form; packed so hard as almost to resist the plow. This deposit showed evidence of heat; clay seemed to have been mingled with straw (or *vice versa*). (I omitted to state that the balance of the elevation is composed of fine moulding sand). At point D was found broken stone and decayed charcoal. At five feet depth was found a graded way — two feet wide, two feet thick — composed of some formation of clay — leading from point E to point C. From this depth on down nothing more was discovered, only that the foundation at C continued its shape to the depth of nine feet.

The contractor would not let us dig any more, so we had to clear out.

This fall would have been the time for you to take a look at our Ancient remains. The weather has been so fine and the river has been at such a low stage of water, we could have had a fine chance to examine the fine hearths and shell deposits that are found five to ten feet below the level of the base of Mound Builder works. I see by yours of July 8d, at Cincinnati, that you have changed your opinions somewhat, as to prehistoric man in America. I would be glad to hear of your coming over to the theory of man being indigenous to America, and if we accept this theory, I think it is very reasonable to accept the idea that each race of people is of separate and distinct origin or creation — probably at different periods of the existence of the earth — at all events that the existence of man in America was of a date beyond what is known as the Mound Builder period, I think we shall be able to prove.

EXCAVATION FOR CELLAR.



A to B, a layer of stone.
 At C, circular altar.
 C to E, channel for blood.
 D, broken stone.

OBSERVATIONS ON THE DIGHTON ROCK
INSCRIPTION.

[Read before the American Anthropological Association, at its first annual session in Cincinnati, Sept. 6, 1877, and first published in the "Magazine of American History."]

BY CHAS. RAU.

In an article on the lately discovered Davenport tablets (published in Vol. II. of the Proceedings of the Davenport Academy of Natural Sciences), Dr. R. J. Farquharson enumerates the inscribed stones found in this country, including among them the celebrated Dighton Rock, near the mouth of Taunton River, in Massachusetts. This rock, as is well known, bears an Indian pictograph, which has been quite plausibly interpreted for Mr. Schoolcraft by Chingwauk, an intelligent Algonkin Indian. He threw out, however, several characters, stating that they had no significance; and some of these, in connection with others actually explained by him, have been thought to form a runic inscription denoting the arrival of the Northmen in the present State of Massachusetts several centuries before the Columbian discovery. The translation, as given by Professor Finn Magnussen, of Copenhagen, runs thus:

"151 Northmen under Thorfinn took possession of this land."

Dr. Farquharson says in his article: "As this reading accords almost exactly with the long lost and recently found Saga of Thorfinn Karlsefn, and is accepted by the French runologists, it may be accepted as the true one."

"The confidence inspired by this successful reading," he continues, "induced the Royal Society of Antiquarians of Denmark to purchase this rock, and arrangements were very recently being made to remove it to Copenhagen. The excitement caused by this movement culminated lately in a public meeting at Boston, and other arrangements were there made by which this important monument of our early history is to be preserved and transported to that city. In consideration of this concession on the part of the Danish antiquaries, a granite monument is to be erected on the spot now occupied by the engraved rock, thus to commemorate the landing here in 1007 of Thorfinn, as narrated in the Saga, and in the inscription, as read by Magnussen."

If such is really the case, the good citizens of Boston may rejoice in the prospect of two grand celebrations with the usual accompaniments of flag-waving, speeches and other proceedings characteristic of such occasions. But would it not be well for them to pause before they carry out their plan of placing a monument at the mouth of Taunton River, and to consider whether the Danish runologist's interpretation can stand the test of scrutiny? If not, they run the risk of commemorating something that probably never happened. It is not surprising that a people to whom, owing to the short duration of its existence, the romantic element of an ancient history is denied, should evince an inclination to acquiesce in the acceptance of a vaguely intimated occurrence to which the character of a historical fact cannot be attributed. Yet such a tendency is totally at variance with the spirit of keen inquiry characterizing our time, and therefore should not be fostered, but should be made to yield to the dictates of sober judgment. I leave for a moment the Dighton Rock inscription, and its interpretation by Finn Magnusen, in order to make some statements concerning *another* attempt of the same gentleman at deciphering runes.

The venerable chronicler, Saxo Grammaticus, gives an account of a great battle fought in Sweden on Braavalle heath, close to the boundary of Oestergotland and Sodermanland. The contest was between King Harold Hildetand of Denmark and the Swedish King Sigurd Ring, the first of whom was slain in the battle, which is supposed to have been fought about the year 700 of our era. A runic inscription relating to this battle was said to be engraved on a rock in the Swedish province of Bleking. The rock is called "Runamo" by the people of the neighborhood. The spot was visited at different periods by antiquaries, but none of them attempted to explain the marks supposed to be runes. In the year 1833, however, the Royal Danish Academy of Sciences concluded to send a committee of scientists to the spot, to investigate the subject thoroughly and report with regard to it. Professor Finn Magnusen was a member of the committee. As it would be foreign to my purpose to describe the operations of these gentlemen in detail, I come at once to the point by stating that in 1841 Professor Magnusen published an illustrated quarto work of 742 pages, under the title of *Runamo og Runerne*, the principal feature of which is

his translation of the marks on Runamo Rock. He made out the following inscription :

Hildekind occupied the empire
 Gard cut in (the runes)
 Ole gave oath (oath of allegiance)
 (May) Odin hallow the runes
 (May) Ring fall
 On this earth
 Alfa, lovegods
 (Hate) Ole
 Odin and Freja
 And Aser's descendants
 (May) destroy our enemies
 Grant Harrold
 A great victory

As will be seen, the purport of the inscription is an invocation against the enemies of Hildetand, whose name, however, is read "Hildekind." The runes, Professor Magnusen states, are of an intricate character, and must be read from right to left. But now comes the reverse of the medal.

In the year 1842, and afterward in 1844, the Runamo Rock was visited for the purpose of examination by the distinguished Danish archæologist, J. J. A. Worsaae—the second time in the company of an artist, who took different views of the locality. Again, I cannot enlarge on Mr. Worsaae's most thorough investigations, but must confine myself to a statement of the final result he obtained, namely, *that there is no runic inscription whatever on Runamo Rock, and that the marks considered as runes by Finn Magnusen are simply the natural cracks on the decayed surface of a trap dike filling up a rent in a granitic formation.*

The arguments brought forward by Mr. Worsaae are to me absolutely convincing, and cannot fail to produce the same effect on every unbiased reader who peruses his amply illustrated work on the subject. It appeared in 1844 at Copenhagen under the title *Runamo og Braavallelaget. Et Bidrag til archæologisk Kritik*, or "Runamo and the Braavalle Battle. A Contribution to Archæological Criticism." The work was translated into the German language under the author's supervision, and published in 1847 at Leipzig as the second part of a highly illustrated quarto volume, entitled *Zur Alterthumskunde des Nordens*. A copy of this translation (perhaps the only one in the United States) is in my posses-

sion, and may be inspected by any one particularly interested in the subject.

I should not omit to state that Mr. Worsaae speaks throughout the work in terms of the highest consideration of his colleague, Professor Finn Magnussen; yet his personal regard could not prevent him from exposing the grave error of this meritorious scholar, who allowed himself to be led astray by a too lively imagination.*

In view of the foregoing it may be pertinently inquired: What confidence can be placed in Magnussen's interpretation of the Dighton Rock inscription? Any one who will take the trouble to examine in the published drawing that part of the Dighton Rock inscription supposed to be of Scandinavian origin, must perceive at once on what a shadowy basis the presumption rests. Even Schoolcraft, who professes to believe that the Northmen sculptured runes on Dighton Rock, could not conceal his scruples as to the correctness of the translation furnished by Professor Magnussen. I may revert to this subject in another article.

The evidences brought forward to prove in a tangible way the presence of the Vikings of the North in the so-called Vinland have certainly thus far been very unsatisfactory. The "Skeleton in Armor" disinterred near Fall River was doubtless that of an Indian, buried, perhaps at a comparatively late period, with some weapons and ornaments made of sheet brass—a material with which the New England settlers are known to have supplied the natives. The "Round Tower" at Newport, Rhode Island, is now considered as the substructure of a windmill, erected during colonial times. For details, I refer to a curious little pamphlet, entitled "The Controversy touching the Old Stone Mill in the Town of Newport, Rhode Island" (Newport, 1851). What will be thought of the supposed Scandinavian inscription on Dighton Rock at some future time, when pardonable credulity will have yielded to severer methods of investigations?

All this, however, does not invalidate my belief that the Northmen were the pre-Columbian discoverers of America.

* Mr. Worsaae is far from claiming the priority in the discovery that the marks on Runamo Rock are not the work of man. According to his express statement, their true character had been recognized by several antiquarians of the last century. In the present it was no lesser authority than the celebrated Swedish chemist, Baron Berzelius, who, after inspecting the locality, pronounced the marks on the rock to be due entirely to natural causes—an opinion in which he was supported by Professor Sven Nilsson, the veteran archæologist of Sweden.

DISCOVERY OF A VENETIAN MEDAL OF 1685.

Artistic—Historical—Associational

BY PROF. J. D. BUTLER.

[From the State Journal, Madison, Wisconsin.]

In 1844, the *State Journal* published an account by me of a Westphalian medal of 1648, which had been just plowed up in our Northwest, in Buffalo county. It was my endeavor to show that that relic might very possibly have been brought to America by Hennepin, the first white man who ascended the Mississippi to the Falls of St. Anthony.

Oddly enough, I have now fallen in with a sort of counterpart to that Buffalo finding—a medal which, it may be, belonged to a man who discovered as much of the Southern Mississippi as Hennepin did of the Northern.

The oldest of all portable monuments are coins and medals. They are "eternal jewels." The places where they turn up are as surprising as their age. Such an antique lately came into my hands at Ottawa, Illinois, where a countryman or peddler had sold it as old silver to a dealer in bric-a-brac.

Its date is 1685, and it is evidently a Venetian medal, in perfect preservation. On the rim between the two faces are the words: *Virtutè et fortuna Venetorum*—"By the Valor and success of the Venetians.")

The obverse is the Venetian lion triumphing. His left paw holds an open book inscribed, *Pax tibi, Marce, evangelista meus*—"Peace to thee, O Mark, my evangelist"). Beneath his feet are a cimeter, spear and three chains, which hold captives, who are turbaned and kneeling, one bearing the crescent badge, another with hands bound behind his back. Other captives are half seen. Behind all is a warrior wearing a cap peculiar to the Doge of Venice. Above all are the words, *Leoni Ultori*—"To the Lion, the Avenger;") and below these words an arm thrust out of a cloud and laying a crown decorated with a palm branch on the head of the winged lion. Below all are the figures, 1685. The reverse shows a wonderful map of Greece southward from Prevesa on the west, and Eubœa on the east. The names of twenty-two places are more legible than in almost any modern map. The position of

each city is indicated by something resembling a wall and gate. Over ten cities there rises a cross ; over five a crescent. The outlines of seven islands are marked ; those of bays and rivers, forests and mountains, are still more numerous.

This medal is of silver, and four and one-half inches in circumference. It weighs two hundred and sixty-two grains. Its age lacking only seven years of two centuries, renders it miraculous that I behold it untouched by time's effacing fingers. Many letters are delicate, but not one is erased. The lion's nose was stamped in high relief, and it has been a little snubbed and flattened. In all other respects we survey this relic with nothing of that artistic finish marred and nothing of that polished brightness dimmed with which it came forth from the mint where all Christendom learned the art of coining.

On the whole, few specimens of the numismatic art are more creditable than the medal before me. But as an historical memorial it is far more memorable.

It celebrates the last great triumph of Venetian arms. The war to which it relates was waged between Venice and Turkey for fifteen years, from 1684 to 1699.

But neither in an historical nor in an artistic point of view is my medal most interesting. It fascinates me most because it was found where one would no more look for it than that it should appear dropping down from the clouds, or picked out of the stomach of a pickerel. It first met my eye in Central Illinois—not far from the Rock of St. Louis which was the Gibraltar of La Salle, and I suppose was discovered in the ground there. It was not old when lost or buried. Had it been it could not possibly remain to-day so fresh and new in aspect.

How came it in Illinois ? I hold that this plate of Italian silver may have been sent to the Italian, Tonty, the officer who discovered one mouth of the Mississippi on the same day that LaSalle discovered another, and who, for twenty years afterward, commanded at the Rock of St. Louis, near which the medal was found. Its date was right in the midst of Tonty's holding this command. It showed Italian successes among Eastern barbarians. Nothing could have greater attractions for an Italian who was grappling with western barbarians. More than this, Tonty had himself fought the Turks, — and like Cervantes, lost a hand in battling them. What could he love better than to see those infidels, as on the

medal, in chains and trampled on by the Italian lion? Nor were opportunities wanting for this blazon of Venetian glory to reach Tonty. Goods, dispatches, traders, soldiers, and, above all, missionaries, notably St. Cosme whom Tonty escorted for more than a month, and those sometimes from Italy, came to him every year. These considerations may serve to strengthen other proofs which, I confess, do demonstrate thinly. When a more plausible conjecture is presented, I will give up mine. Meantime, however, I have reason to prize the Morosini medal as a memorial of Tonty, and hence, to the best of my present knowledge, the most ancient and hence honorable relic of any white settler which Illinois, in all its length and breath, can boast, a witness whose tales if he had a tongue would lack only seven years of running back two centuries.

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ARCHÆOLOGY—LOCAL SPECIMENS.

An Ohio Type.

BY E. A. BARBER.

A form of arrow-head, possessing barbs and recurved basal wings seems to be peculiar to Ohio and the vicinage, along the borders of Indiana. There were several of these in the Centennial exhibit of the National Museum under the supervision of the Smithsonian Institution, of which Nos. 5,685, 12,488 and 18,994 were good examples. The illustrations are copies of specimens in the collection of Professor S. S. Haldeman, of Chickies, Pennsylvania.

Every individual of this form, which has come under my notice, (and I have seen probably thirty in all), has invariably been obtained from Ohio or the immediate neighborhood. The material is, in almost every case, a light umber-colored flint, with a smooth, even fracture. The size is large,—generally from three to four inches in length and frequently beveled. The lateral notches are usually two-lobed. The size of all I have seen, would seem to point to the conclusion that they were used as spear-heads and the peculiar notches, which characterized them, were designed to facilitate the attachment of the head to the shaft.

EDITORIAL NOTES.

THE FIELD WE OCCUPY.

The Antiquities of America have not yet engaged public attention, though there is no question, but that they are very numerous and interesting. Scholars in the Old World have been engaged in exploring Oriental scenes and investigating pre-historic traces, but we have hardly realized what a field there was at our own doors. The interest in the science has become such, however, that we are warranted in devoting a magazine to it as a speciality. We hope that with the increasing attention given to American History, there will be many who will push their investigations farther back into pre-historic times—and instead of going abroad for antiquities we shall find them at home.

It is probable that we shall trace back, the races of America to the same region of the Orient. But the earliest state of our own country, must be made known by our own citizens. The aborigines, Mound-builders, inhabitants of New Mexico, civilized inhabitants of Mexico, all furnish a ready field for investigation. The caves, gravel-beds, lake-dwellings, and peat-beds, have not yet been explored. Doubtless the science of Archæology will assume new tokens as study advances, and we shall find the need of new textbooks. For the present the European system must guide us.

We have an important field, as the pre-historic races are not yet obscured by Historic accumulations. We have a disadvantage, however, in the vastness of our continent, as many of the scenes and locations are far apart, and the connection between the races will be difficult to prove. Certain writers are endeavoring now to show that the inhabitants of Europe were Autochthons, as the migration went from there to Asia—but we take no pride in making American people either Asia or Europe. We desire to ascertain the truth.

The ethnic affinities of the American races are a most important and practical subject of investigation. Mr. L. H. Morgan has given the world a valuable work on the natural structure of society, and in this line of study America presents a most interesting field. The linguistic characteristic of the living races of America, no

sensation of two wolf-teethed, tufted-headed, short, thick rattlesnakes, each swallowing a long, slim "Blue Racer" sort of snake, which coils in and out and around the body of its devourer.

There are symbolical representations on it, and it has a slight resemblance to the famous solstitial tablet, found in the city of Mexico.

Mr. T. A. Spencer, of Circleville, has photographs of it. The famous circle and mound, which gave name to Circleville, have disappeared. The mound was sixty feet high, and it took the citizens months and years to remove what would now be one of the greatest curiosities of the country, and which might have proved a unique and singular ornament for a public square, but it has gone. The circle was seven hundred feet in circumference, but that has disappeared. These works are known only from tradition.

Eighteen miles below Circleville, towards Chillicothe, there is a height of land or knob-like eminence, which is called "Lookout Mountain." It looms up, tall and dark, and by a superstitious people must have been regarded with peculiar awe. It was in sight all the way to Chillicothe. On its summit there is a mound which is supposed to correspond to the one located on the low alluvial plains at Circleville, which we have just described—eighteen miles away.

It possibly was one of a series of Signal Stations which extended the whole length of the Scioto River.

Just below this knob-like eminence are the well-known works of Hope Town.

At Chillicothe,—The Public Library and an Academy of Science here are in a flourishing condition. They contain two or three cases full of Archæological relics. There is no place in the State where more interest is taken in the subject. Even the boys vie with each other in gathering the best collections. The teacher in the Academy and a physican in the place are also the owners of fine Cabinets.

Portsmouth. — T. W. Kinney lives here, than whom no one is better calculated to give reliable information of the antiquities of the region. Dr. S. G. Hempstead and T. W. Kinney have made the study a specialty, and through them the remarkable works of the vicinity may be known. It is very unfortunate, however, that no accurate survey of these works was ever taken.

There is a significance to the system which does not admit the loss of a single member. There are some evidences that these

works are symbolic.* The double horse-shoe figure, resembles those which are found on ancient coins, which are significant of the Phallic worship which prevailed in the Bacchic rites. There is also a slight resemblance between these and the stone circles, and semi-circles at Stonehenge.

Mr. Kinney thinks that the whole system of works has a resemblance to a massive serpent,† which extends twice across the river, and seven miles in length up and down the river. These works are on the second and third terraces, but are not found on the alluvial bottom land.

We found a curiosity here which was a freak of nature. It was in the form of a tufted-headed serpent's head, with an egg in his mouth. The old fabled cosmogonic egg. It is composed of segregated iron and limestone, and was found among the iron beds of the mines not far from *Portsmouth*.

At Cincinnati.—The associations met in the College Hall, as guests of the Natural History Society and Historical Society of Cincinnati. A number of papers of much value was presented to the State Association.

The papers presented at the Anthropological Association are mainly contained in this number of the *Antiquarian*, having been published by request of the Society.

The same officers were re-elected, and a number of by-laws were adopted; one empowering the trustees to transact business of the Association by correspondence.

The two Associations were invited by the citizens to take an excursion to Fort Ancient.

"AN IMPORTANT DISCOVERY."

This excursion resulted in a remarkable discovery. Fort Ancient is a massive earth-work, situated on an eminence near the Little Miami, about forty miles from Cincinnati.

This eminence is a very irregular tongue of land, about three hundred feet high, formed by the junction of two streams. Its abrupt sides are broken by frequent gorges which have been washed out, so that the top, though level, is very irregular at the edges. Around the jagged points of its summit are the high earth-walls,

* See Squier and Davis' Report, Smithsonian contributions, Volume I.

† See Serpent worship, by E. G. Squier.

which constitute the Fort. They are over four miles long, around the enclosure. They are well preserved, as no tilling can break down their abrupt and high parapets. In many places these walls are eighteen feet high, and twenty feet wide at the bottom. The top is from six to twelve feet wide, and very level, except as the frequent openings break the line. The gorges of the tongue of land divide the Fort into two enclosures.

There is a narrow pass from one to the other, where was probably at one time a gateway. This entrance to the lower enclosure is guarded by two large mounds, which stand close together within twelve feet, and between which are remains of a paved way.

The mounds are separated from the walls by a slight opening, but the walls are curved up to them so as to appear continuous. The walls, themselves, bend around the sharp angles of the summit making remarkably short and frequent folds. They are not of the same size throughout, but rise and fall and have links in them divided by openings.

The discovery consists in apprehending the significance of these mounds and walls of the lower enclosure.

They bear a resemblance to the form of two massive serpents, which are apparently contending with one another. Their heads are the mounds which are separated from the bodies by the opening which resembles a ring around the neck. They bend in and out and rise and fall, and appear like two massive green serpents rolling along the summit of this high hill. Their appearance under the overhanging forest trees is very impressive.

It may be all imagination, but our prophecy that we should find the tails at the opening at the other end, was fulfilled, for as we approached that point, the very twist of the walls, and their taper down the valley where there was an opening, convinced the most skeptical. One of these serpents, whose head indicated that it was the attacking party, had a twist or a roll in its tail which called forth our attention, before we reached the end. The length of these two serpents was about three-quarters of a mile each.

With their massive bodies they enclosed an area of many acres. Lying thus twisted around the summit of a hill three hundred feet high, their bodies bending with every angle of the top, and their heads dashing at each other at the narrowest point, they certainly formed a very impressive symbol. What system of government

or what power of priesthood could have devised and executed such a work. On the summit of this isolated hill, where deep gorges and dark forests, and the running stream make a mingled scene of wildness and romance,—these mysterious figures lie.

A strange superstition must have chosen this spot as a place of defence and erected works here, which would excite fear and awe.

Cincinnati is noted for its variety of Archæological relics. No city in the union has a larger amount of relics of the Stone Age. They are found in the cabinets of the two societies, in private collections, in the stores of dealers, and in the houses of citizens.

Thomas W. Cleaney has one of the largest collections in the world. Dr. H. H. Hill also has a splendid cabinet, which he is always quite free to exhibit to visitors to that city. Judges M. F. Force and J. F. Cox, are much interested in the science. Dr. R. M. Byrnes makes a specialty of shells, but he also has a fine collection of relics.

Richmond, Indiana.—Here, L. B. Case, the Secretary of the Indiana State Association, and Rev. George More, D. D., President of Earlham College, are both interested in the science. A lecture to the students was well received, and the Richmond *Palladium* gave notice of our visit. There are not many earth-works in this vicinity. Some relics have been gathered, and are now in the cabinet of the Academy of Science and of the College.

At Fort Wayne, Indiana.—Here lives Hon. R. S. Robertson, whose delightful home is full of the fruits of his industry, as a collector and student. The former, Mayor of the city, is also something of an antiquarian, having in his library some fine specimens of missals and old books, which are entertaining to those who have a taste for such things. A German Antiquarian store, kept by Simeon Brothers, in this city, has the largest collection of old books and engravings at the west. Many resort to it to purchase engravings and curious books.

Ann Arbor.—From Fort Wayne to Ann Arbor, we pass over the alluvial valley which was evidently the former bed of the great glacial sea which led down to the Mississippi river. It is maintained by Honorable R. L. Robertson, that in this alluvial valley there are no mounds and no evidence of occupancy other than by the later red Indians. This remains to be proven, but is worthy

of study. There are some relics discovered in the drift of Michigan, which we had the opportunity of gathering, but cannot describe.

The collection belonging to Michigan University, has some value by way of comparative Ethnology, but is not valuable in its local or American Archæology.

Detroit.—The Academy of Science in this city is one of the most efficient at the west. Here are many of the relics which have been gathered from the river Rouge and other localities; also the mining tools from Lake Superior, and some Indian relics from Mexico, and certain inscribed tablets worthy of mention. Hon. Bela Hubbard has charge of the skulls which have been described by Henry Gillman, Esq.* It is worth the while to go over the evidences presented by the last named gentleman's papers, by personal observation, for the conclusions in reference to the age of the skulls which have been described by him. The perforated skulls were a sign of the *animism*, which prevailed among the red Indians. The burial places and mounds on the river Rouge were too much mingled with *modern* tokens to be especially valuable as a place for the study of *pre-historic* man.

The study of Archæology on this continent requires the utmost care. This tour has given us a much more correct idea of the great variety of earth-works, and the distinctions which may be drawn in the separate localities of the west, than we had before. It is a superficial view which we have given, but the science is, we believe, destined to find a rich field in all of this region, and our hope is that each *local association will work at its own field with more efficiency and enthusiasm*, as the interest shall increase.

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THE SERPENT SYMBOL AT FORT ANCIENT.

Honorable C. C. Jones, of Augusta, Georgia, also writes in reference to this: "Your visit to Fort Ancient must have been very interesting. Why cannot a careful re-survey be made of it, in the light of the new interpretation which you give to this monument? It should be done, and with rigid exactitude.

* See Proceedings of American Association for Advancement of Science for 1875.

Recently I have visited and had measured *two bird-shaped stone tumuli*, in Putnam County, in this state, and now enclose for your perusal a printed notice of them."

Prof. A. H. Sayce, Queen's College, Oxford, writes: "The discoveries you describe are very interesting. Not very long ago Miss Cummings, when taking a drawing of a tumulus near Ballachulish, in the Western Highlands, discovered that it had been constructed in the form of a huge serpent. I am inclined to think that further researches will show that earth-works of the same shape have been raised in different parts of the world. They seem to mark a particular stage in the history of natural religion. In Brittany—among the other ornaments which mark the weather sides of the stones, which form the dolmen at Gave Innis, I copied two wavy serpents. On the first stone on the right hand side at the end of the dolmen, at Meneyar Hellm, I copied the following: On the inscribed stone at the Buck de Cæsar, similar forms occur. But more materials are needed before a conclusion can safely be drawn from them."

Professor M. C. Read, of Hudson, Ohio, also writes: "I am glad to get your letter, and am much interested in it. The question of questions on serpent symbolism of America is, was it Phallic? If not, it does not, in my opinion, indicate any Ethnic relationship with the old world nations. The Coin inscription which you figure is unquestionably Phallic. The serpent was everywhere in Europe and Asia, the symbol of the Phallus, *i.e.*, the male creator. The horse-shoe is also the female, the door of life. The shape of this symbol was modified by life in tents and in houses. The serpent and the door together, mean the combined creative powers, of nature,—Adam and Eve, male and female. These two symbols took innumerable forms, and are preserved in the Fraternal Orders of the day. We want a grouping together of all illustrations of the joint use of similar symbols of America. My own expectation is that in the end we shall establish a pre-historic connection between the indigenous civilization of America and Asia, but that the separation took place before there was a written language anywhere. Religious symbolism must be relied upon as the language from which to determine the times of the separation.

DISCOVERY OF A MASTODON ASSOCIATED WITH
HUMAN REMAINS.

A mastodon has been recently discovered in Ashtabula county, Ohio. On the 25th of April, Mr. E. Owen was engaged in ditching the farm of Mr. Boudinot Seeley, in Austinburg, Ashtabula county, O., when he suddenly came upon the bones of the animal. These were situated about three and a half feet below the surface, in the middle of a small swail or muck swamp, called by the farmers a "cat swamp." The bones were lying below the swamp embedded in the clay, but projecting above it and partially contained in the muck. The bones consisted of the head, the atlas, twenty-five ribs, the scapula, several dorsal vertebræ, and three vertebræ of the coccyx, but no tusk or tooth or lower extremities. The measurements are as follows: Head, as found, length three feet nine inches, width two feet six inches. Ribs, smallest, length three feet one inch, width three and one-half inches. Ribs, largest, length four feet six inches, width six inches. Scapula, length three feet four inches, width two feet six inches. Socket of ditto, eight inches by five. Vertebræ, with lateral process, two feet two inches, width thirteen inches.

An arrow-head was discovered at the edge of the swamp, in the clay, at a depth of two and a half feet below the surface, and about fifty feet from the skeleton.

Fragments of charcoal were distributed through the upper soil, and some in the clay and near the bones. The bones themselves evidently were disturbed, as they were scattered over a distance of twenty or thirty feet, and were not in place. The search has not been completed, and it is believed that other traces of flint weapons and of fire may yet be discovered, if a proper examination shall be made.

The location is about four miles from the upper part of the Lake Erie terrace formation, and about six miles from the present lake shore. The soil is a thick clay, is very level, and was formerly covered with heavy timber. The clay rests for the most part upon the Erie shale, through which the streams have worn deep gorges, especially as they come into the lake.

It is worthy of remark, that relics of the latest geological period are found in the terraces, as other fragments of bones of the mastodon and the remains of logs have been discovered in various

places, situated low down in the gravel beds or embedded in the top of the clay.

This however is the only case where there are traces of the human epoch, either in the Tertiary, the Quaternary or in the terrace formations of this region.

DISCOVERY OF A CAVE NEAR LANCASTER, PA.

A man engaged in the work of quarrying limestone near Lancaster, Pennsylvania, has discovered a cave. The entrance was only large enough for a man to crawl in, but after proceeding a distance of twenty feet it became large enough for a man to walk erect, and a short distance farther on rises to a height of thirty-one feet, and varies from eleven to eighteen feet in width, and is four hundred yards long. The roof and sides of the cave are covered with stalactites, some of which are three feet long. A narrow passage leads from this chamber to another which is about six times as large, and has an icy-cold stream of water running through it. In it is also a beautiful lake, about one hundred and fifty yards long and about two-thirds as wide. A small stream runs from the lake and empties into the large one. In the lake several small fish were seen, which on being caught were thought to be sightless. The cave has not yet been fully explored, and more curious features may be discovered.

DISCOVERY OF SKELETONS.

Interesting Examination of a Mound in Chagrin Falls.

Two gentlemen by the names of Graham and Bray, engaged in the work of excavating a mound near Chagrin Falls, early this spring. They found twelve skeletons, all in an advanced state of decay, so much so, in fact, that but few pieces of bone remain intact. Four skeletons were found in the first tier, and these were buried apparently before the mound was built, in graves deep enough to hold the body. The soil is a yellow clay, and as the mound is of black loam these lower graves were easily traced. Two of these were undoubtedly the last resting-place of chiefs, or rulers, as they were covered with flat stones, while the others were not, and in each was found several badges and flat implements. Each of these graves contained a curious badge of striped slate, somewhat in the shape of a shield, and pierced with two holes near the middle; they also each contained a long flat badge of slate, also pierced with

holes, and a quantity of red paint which is well preserved, and somewhat resembles red lead. The heads of the two skeletons were raised so that they formed nearly a right angle with the bodies. Over the surface was spread about eighteen inches of soil, in which were found eight skeletons, and over this was a tier of flat brook stone covering the whole area. Originally another tier of flat stone was spread over above this, with a layer of earth between, but they came so near the surface as to interfere with the plow and were removed, and doubtless several skeletons were also broken up, as fragments of bone were found in the debris above the upper layer of stone.

AN ANCIENT MILL BELONGING TO THE STONE AGE.

There is in the rooms of the Historical Society of Wisconsin a curious relic of the *stone age*. It is a "quern," or stone corn mill, and of undoubted antiquity. The lower stone is nearly twenty-three inches in diameter, and about seven inches thick. In the center is a hole one inch in diameter, extending through the stone. The stone is cut away to the depth of three quarters of an inch for nearly its whole size, simply leaving a rim of about one and a-half inches in width. At one side a small channel is cut to allow the crushed grain to escape. The upper stone has a diameter of twenty inches, and the upper surface is convex having a thickness of two inches at the edge, and five inches in the center, where is a hopper-shaped opening with a diameter of five and one-half inches. Near the edge are three holes, equi-distant, intended to put in sticks or something of the sort, for the purpose of turning. In the under side of the upper millstone is a rectangular slot three by eight inches and three-fourths of an inch deep. A copper disk, eight inches in diameter, carrying on one side a projection which exactly fits this slot, was found in the immediate vicinity, and doubtless formed a bearing upon which the stone revolved. The material of the mill is a greenish *basalt*, a variety of trap. It shows the effect of long use, the grinding surfaces being worn smooth. This unprecedented discovery was made in Washington county, while digging away a mound in order to lay the foundation for a barn, and at a depth of four feet below the surface. This implement is undoubtedly entitled to the first place among the pre-histories of Wisconsin. W. P. C.

Madison, Wisconsin, Feb. 8, 1878.

BOOK NOTICES.

ANTHROPOLOGY, by DR. PAUL TOPINARD. Curator of the Museum of the Anthropological Society of Paris, with preface by Professor PAUL BROCA. Translated by Robert T. H. Bartley, M. D., with forty-nine wood cuts. Samuel Chapman & Hall, 193 Pecadilly, Philadelphia. J. B. Lippincott & Co., 1878.

Topinard and Broca have the same position in France that Huxby and Carpenter have in England. They are at the head of the science of Anthropology in both countries.

The reputation of all these men is an indication as to how important that science has become. Perhaps no department of learning is engaging attention more than this.

It is a singular fact, Topinard says, "that in France the first society, having Anthropology for its object, was established to give currency to the idea that Races and their temperaments play an important part in the existence of nations, a thought first advanced by Sir Walter Scott in his works. At the present the subject, however, has assumed a new importance on account of its bearings on the very origin of man."

This book, however, introduces a new phase of the subject. It treats of man in his physical structure and organization, as compared with animals, and as exhibited in the different races, but avoids all theories of his origin and of his psychic conditions.

The work is exceedingly valuable, as it meets a demand which has long been felt, especially among ethnologists and archæologists. Zoologists have heretofore had a great advantage over Anthropologists, as their text books give them the directions whereby the bones and different parts of animals could be studied and compared, and so a correct classification could be adopted on the very system furnished by the hand of nature; but when one came to the study of man, nothing seemed to be established. It is worthy of observation, however, that the higher we ascend in the scale of being, the more important do slight variations become, and for this reason it has required the closest study of every point in man's structure. The researches of Broca have not been in vain. The study of the anatomy and physiology of man, the analysis of the different parts of his frame, the comparison with the same in animals, and the measurement of those parts so carefully, and among the different races, have given us a basis for study which was never enjoyed before.

It is to be hoped that Anthropology, as a physical science, will now settle down to some system and adopt some classification so that students who enter upon the study, may have, at least, the elements from others, rather than be obliged to make a science—every one for himself.

The book is strictly scientific, giving measurements in great numbers, and using technical language, but is the more valuable for being so thorough and definite.

THE ORIGIN OF NATIONS. In two parts. On early civilizations. On ethnic affinities, by GEORGE ROWLINSON, M. A. Camden Professor of Ancient History, Oxford, and author of "The five Great Monarchies."

The archæology and ethnology of the east have long been studied by the ripest and best scholars in the world. These studies have at last brought great results. The Histories written thirty years ago are now comparatively useless. No persons, however, have contributed more to this change than have General Henry Rawlinson, and his brother the author of this work. The especial object of the present volume does not, however, seem to be so much to embody the results of the latest discoveries in the east, as to prove two points. These points are stated in the preface:

"The author is of the opinion that there is no sufficient evidence of a settled monarchy in Egypt, prior to about B. C. 2,500," and "that civilization can nowhere be traced back to a date anterior to this. Regarding it as a pure assumption that the primitive condition of mankind was one of savagery, he has endeavored to show cause in favor of the opposite hypothesis, that man's primitive condition was one very remote from savagery and containing many elements of what is now termed civilization"

It need not be said that the book is in favor of maintaining the scripture chronology, and is strictly a defence of the commonly received interpretation of the Bible, in regard to the origin of man. There are many writers who, like McCansla, Taylor, Lewis and others, favor a longer period and interpret the scriptures as referring to the white or to the Jewish Race, or as containing descriptions of a new and later epoch of human existence. But the present writer addresses himself directly to the task of refuting all such positions, on the grounds furnished by history itself. The book is well worth reading, as it is full of information drawn from the latest studies and discoveries; though as a work which will convince scientific minds, it should be said that it covers a field of History which few naturalists feel competent to explore, and does not even touch upon the *pre-historic* evidences.

It is to be regretted that the author could not or did not bridge this chasm between the historic and the pre-historic study of man, yet as a help to Bible study, and as a resume of the latest investigations into ancient history, the work is exceedingly valuable.

COUNT FRONTENAC AND NEW FRANCE, UNDER LOUIS XIV. By FRANCIS PARKMAN, author of "Pioneers of France in the New World," &c.; fourth edition, 463 pp., 8vo. Boston: Little, Brown & Co., 1877.

Mr. Parkman's books are all thorough, reliable and readable. Some of them are very valuable to the ethnologist, as they give minute descriptions of the aborigines and their customs. This is more confined to the history of the white race. It contains an interesting description of Count Frontenac, and of the French rule in the regions of the Canadas, during that disturbed and troublous time which elapsed between 1650 and 1700. It shows for one

thing, that the disturbances and dangers which were suffered by the early colonists along the northern frontiers of our domain, were not altogether owing to Indian atrocity and treachery. The jealousy of the French and their hostility to the English settlements caused much suffering and loss of life. The description of the invasion of Canada, the attack on Quebec, under Captain Phipps, was a harmless trip compared with the taking of Schenectady, and other frontier attacks.

It appears that the bloody King Phillip's war must be followed by the contest between the French and the English for possession. The far-famed removal of the French inhabitants for Acadia, was only an incident in the long struggle which finally resulted in the supplanting of the French in Canada by the English. It was a hundred years before the contest ended.

This book is exceedingly valuable, as it is only one of the series which leads the reader nearer and nearer to the end of the great contests when first the English overcame the French, and next, the Colonists overcame the English, and so at last this country became independent of all foreign rule.

OUR EXCHANGES.

THE NEW ENGLANDER. This standard quarterly, now a bi-monthly, contains a number of articles on our specialty. The July number contains the review of Joseph Cook's lectures on Biology, and of Prof. Tyndall's addresses on "Science and Man." The March number contains an article on Schlieman's explorations, by Professor Lewis R. Packard, and the May number one on primers and juvenile books among the Chinese. The article on Schlieman's Troy and Mycenæ takes the doubtful side in reference to the genuineness of the Homeric treasures, as it does upon the whole question of Homer's descriptions, but is worth reading for its very criticisms and discriminations.

THE SOUTHERN PRESBYTERIAN REVIEW, for January and April, published at Columbus, S. C. An article in the first number contains a valuable sketch of the early history of Wales, and gives an account of Prince Madoc and his capture, the very mystery of which has given rise to the many stories of "The Welsh in America." Prince Madoc mysteriously disappeared in Wales, but he never has been discovered on this continent, notwithstanding the number of tribes which are said to "speak the Welsh language."

THE PRINCETON REVIEW. The March number contains a valuable article by President McCosh on "Mind and Brain," in which the author very strikingly shows the connection between the physiological activity of different parts of the cerebrum and the mental and emotional exercises, but at the same time points out the error of assigning the latter to material causes.

THE MAGAZINE OF AMERICAN HISTORY, for April, contains a reprint of La Salle's account of the American Indians, translated by the editor. Also, a sketch of "Hon. Peter Force, the American annalist." This magazine seems to be fairly established, and is exceedingly valuable, especially as many facts of early history can now be confirmed which fifty years from now might not be known.

THE LONDON QUARTERLY REVIEW, for January. American edition. Like the New Englander for the same month, this magazine contains an article on Prof. Tyndall's last deliverance under the title of "Scientific Lectures; their use and abuse." The writer is caustic and severe, but, perhaps, no more so than the presumptuous theology of this materialistic philosopher deserved. The review of Schlieman's Mycenæ is one of the best yet written on that subject.

THE LITERARY WORLD, for May, has a review of Dr. J. C. Southall's "Epoch of the mammoth." We quote a single sentence. "Owing to the fact that the class of so-called Archæologists includes a larger proportion of half taught men than make up the personnel of any other science, their work needs the surpassing criticism of a judicious mind, such as Dyell so nobly gave to the researches of geologists." Dyell is not a good authority to cite, if one is to take his accounts of Archæology in America as a test. We make no objection to the sentiment, but "half-taught" men sometimes have great reputations.

THE MARIETTA REGISTER has a series of twelve articles on the war of 1812, by Horace Nye. The Grand Haven *Herald* has a letter on Arizona and its ruins, by Ed. T. Terry, a brother of the U. S. Senator.

THE ROCKY MOUNTAIN PRESBYTERIAN, a monthly, has some interesting illustrations and many sketches of Western scenes, and of Missionary life among the Indians, and of other descriptions which have value to the ethnologist.

THE WESTERN CHRISTIAN ADVOCATE has several articles by Professor Nelson, of Delaware, Ohio, on Necrology of Scientists.

FIELD AND FOREST. The last number of this illustrated magazine of Natural Science, contains an article, with plate illustration, on "Archæological Frauds." This journal was started in 1875, and is now in its third volume. Its contributors are recognized scientists or authorities, and its articles mainly *genuine contributions*. The thirty numbers of FIELD AND FOREST, already published, contain valuable original matter from such scientists as GILL, RIDGEWAY, ALLEN, EDWARDS, CHICKERING, VASEY, FOREMAN, and others, upon *Ornithology, Botany, Ethnology, Archæology*, etc., etc. Volume II. contained 224 pages of reading.

A LIST OF BOOKS

ON

Archæology, Ethnology and Anthropology.

The following is a list of works which the Editor has found useful in studying the Science of Archæology. Any person so desiring can order them from the Editor at his residence, and they will be forwarded from the publishers at the prices affixed. All orders should have the money accompanying them.

- Ancient America.**—J. C. Baldwin. Illustrated. 12mo, cloth.....\$2 00
- Ancient Society.** By L. H. Morgan. 8vo. \$4 00
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REV. STEPHEN D. PEET,

*Corresponding Secretary of the American Anthropological Association, and of the State
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THE AMERICAN ANTIQUARIAN.

VOL. I. NO. 2.

JULY, 1878.]

A COMPARISON OF THE PUEBLO POTTERY WITH EGYPTIAN AND GRECIAN CERAMICS.

BY EDWIN A. BARBER.

To those scientists who advocate the hypothesis of the Egyptian origin of the American races, and claim to have discovered, in the truncated earth-works of the so-called Mound-Builders of the Mississippi Valley, and the terraced stone *teocallis* of ancient Mexico, a feeble imitation of those stupendous works of art, the Nilotic pyramids,—there is an additional source of gratification in the detection of a remarkable analogy between the primitive patterns of the *pottery* of some of the Nahuatlac tribes, and the early ceramic productions of ancient Egypt.

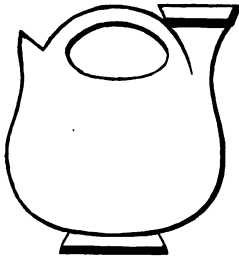
For the oldest remains of the plastic art, we naturally turn to the latter country; and here we find the first crude designs, in the forms of vessels and their ornamentation, which have subsequently been developed to such a degree of perfection by the Greeks. There can be no doubt that the Grecian art of ceramics was influenced, in certain directions, to a considerable extent, by the Egyptian, especially in its incipency. But it has been said that "Egyptian art once arrived at a point at which it was determined to stop, advanced no further; never retrograded; remained firm, immovable, unassailable, like its colossi, like its temples, like its pyramids." On the contrary, Grecian art grasped many of the primitive ideas of Egypt, improved upon them and developed them to a high state of perfection. Then, after having reached a certain point, it commenced to decline.

We cannot be too cautious in drawing inferences from analogies, yet comparisons will not necessarily propagate errors, but will often

serve to elucidate obscure questions. It is certainly very evident that many of the forms of vessels made by the ancient Pueblo races, and the devices which appear upon their surfaces, bear a close resemblance to some of the ancient Greek vases, and, through them, to the Egyptian. The object of this paper is simply to draw attention to this similarity, without endeavoring to account for it, by advancing any hypothesis of the origin of any of the American peoples. Such points of parallelism, indeed, are not always to be explained as being the result of imitation, influence or design. They may have been purely accidental. Under like conditions, like results may have been reached, through the requirements and surroundings, alone, of ancient man in either hemisphere. Yet, after a careful examination of this interesting, and, until recently, little-known Pueblo ware, it would seem probable that some previous influences had been instrumental, to some degree, in the employment of long-established principles and the production of well-known Egyptian and Grecian forms on the Western Continent. By the ancient Pueblo pottery, we mean that superior ware which is now found in great abundance, associated with the pre-historic mural remains of Colorado, Utah, New Mexico and Arizona. It occurs almost everywhere in superficial deposits throughout the territory drained by the Rio San Juan, the Rio Grande del Norte and the Rio Gila. In *quality*, the ware found in the valley of the former, in particular, compares favorably with that of ancient Egypt, especially when we take into consideration the difference in civilization, and the proficiency in the arts, of their respective creators. It takes a middle place between earthen-ware (*soft paste*) and true porcelain (*hard paste*). It occasionally possesses the hardness, smoothness and often the clean fracture of the latter, without, of course, the translucency. The composition of the paste is an infusible mixture of clay and pulverized quartz, while the surface of the ware possesses a fine glaze, approaching frequently to enamel. This is not metallic, but alkaline in its nature. Amongst the Pueblo pottery, was a bright red lusted variety, often ornamented with heavy black lines, or bands, corresponding to the early red ware of the Greeks.

The second point of resemblance is in the *forms* of the vases. Many of the Grecian terra-cotta vessels were imitations of the *ascos*, or goat-skin bottle, for holding wine. This was one of the earliest forms of liquid receivers, and the fictile imitations were among the oldest household utensils. They were not accurate copies of the skin sacks, but were rather conventional in form, the mouths being open, with the handles passing over the bodies to the necks. (Fig. 1).

Fig. 1.



Ascoc.

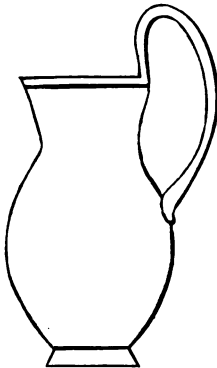
ascos. Figure 2 represents an ordinary design, in which the feet are absent. The handle joins the two compartments and forms a hollow tube through which the water can pass from one to the other.

Fig. 2.



Moqui Water-Jar.

Fig. 3.



Olpe.

primitive type of the *cenochæ*.

The *cenochæ*, or wine-jug of the Greeks, which usually possessed a trefoil lip, or a modification of this form of vessel, called the *olpe* (Fig. 3), is represented among the Pueblo ruins of the west by an ewer with a lip and single handle. Figure 4 is an illustration of a pitcher taken from an ancient grave in the canon of the Rio Mancos, in South-western Colorado, which may be considered a

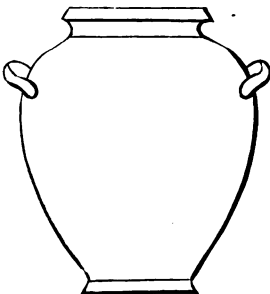
Fig. 4.



Pueblo Pitcher.

The Greek *stamnos* (Fig. 5) is only a more fully developed form of Fig. 6, which latter was exhumed in South-western Colorado, in the year 1875. The fragment

Fig. 5.



Stamnos.

them appearing in the preserved portion.

was associated with some calcined corn-cobs. Its mouth is contracted, and the foot was most probably wanting, but it possessed the opposite, horizontal ear-shaped handles of the *stamnos*, one of

Fig. 6.



Pueblo Vase.

The *rhyton* of the early Greeks was brought from Egypt. Its peculiarity consisted in the fact that it could not be set down until the liquid contents were drunk or emptied. The *rhyta* were

Fig. 7.



Rhyton.

generally fashioned in the shape of animals' heads (Fig. 7). They were somewhat similar to the *cantharos*, or sacred drinking cup, which, however, possessed two long, graceful handles, and was supported on a delicate stem. The *rhyton* has its equivalent in the mug of the Pueblos

Fig. 8.



Pueblo Drinking Cup.

(Fig. 8). This latter, whilst it is supplied with but one handle (differing in this respect from the *cantharos*), was used at table for the same purpose, *i. e.*: to drink from.

Many of the Pueblo vases tapered towards a point like the Egyptian, and some of the Grecian, amphoræ, so that they could not stand without supports. These were generally the pots in which water was heated. In this particular the Egyptian resemblance is strikingly seen. The Grecian vases were generally supported on feet, as in Figures 1, 3 and 5, while in the Pueblo vessels these were entirely wanting. In the ancient Pueblo pottery many vases were fitted with lids. In some of them a projection occurred around the inner edge of the mouth, which was destined to support a circular cover, which fitted into the orifice. These lids were usually provided with a central button or handle, by which they might be lifted off. Many of the Egyptian and Greek patterns possess similar covers.

The third point of analogy consists in the *uses* to which the earthen utensils were subjected. They were designed by the Pueblos, as well as by the Egyptians, for food-receptacles, for water vessels or for cinerary purposes. The ancient Pueblos sometimes cremated their dead, and practiced urn-burial. In many *ollas*, whose lids were cemented firmly, there have been discovered fragments of charred human bones, and in one spot, on the Rio de Chelly of Arizona, *seven* urns, measuring fifteen inches in height, were unearthed, all of which bore evidences of having been employed in funeral ceremonies. The ancient Pueblo stored his flour and food away in clay vessels; he preserved oil and water (which in that section was often scarce, and consequently extremely precious,) in great stationary jars; he used terra-cotta utensils at table, in incantations, and at all imposing ceremonies. The patterns and varieties of his pottery were numerous; there

were urns and jars, pitchers, cups and vases; there were bowls, basins, saucers, ladles, spoons and dippers, and in fact every form which occurs among the Egyptian and Grecian pottery, which has thus far been brought to light; and thus the Pueblos were far in advance of any other American tribe in the ceramic art.

The fourth, and probably the strongest point of similarity, lies in the painted decorative patterns, which present an almost endless variety of conventional and geometric devices. The Pueblo pottery is decorated for the greater part with *horizontal* bands like the Greek, not *vertical* stripes like much of the Cypriote pottery of Cesnola. The colors employed in the ornamentation of the former were principally black, red, orange and white.* In the Greek ware, they were for the greater part the same, and the vessels were frequently covered with a black glaze, which is the case in the Pueblo wares of the best quality.

As we advance southward into Mexico, the character of the American pottery changes materially. Pigments were used more sparingly, and the ware presents features more architectural in nature. The ornamentation is moulded in relief, and the sun and serpent symbols frequently occur. But the commonest representation is that of the human form—figures identical with the wooden images (the so-called *rain-gods*) now to be found suspended in every Moqui dwelling. The composition and finish of the Pueblo pottery were far superior to that of the more advanced Aztecs, but in the art of sculpturing the former had only reached the incipient stages.

Among the simpler ornamental devices on the Pueblo pottery occur the following Greek patterns, modified in a greater or less degree:

The *fret*, or *herring-bone*;
Annulets, or *rings*;
Checkered bands;
The *meander*, or "walls of Troy;"
The *scroll*;
The *ivy-leaf*;
The *Maltese Cross*, etc.

The "herring-bone" pattern may be considered almost universal. It has been used by nearly every savage tribe, and being one of the simplest ornamental devices, was therefore one of the first to be employed. It was used to embellish Egyptian works of art long before it appeared in Greek pottery. Although it is a very common inscribed ornament on the Pueblo pottery, it can scarcely be considered characteristic, as we find it among the æsthetic elements of the majority of the American races. *Annulets* and

* See paper by the author, in the "American Naturalist," for August, 1876.

checkered bands, however, revealed a more advanced stage in ornamental design. These were used by fewer savage peoples, but occur extensively on the Pueblo vases. In some instances the entire surfaces of vessels were covered with checker-work, in black and white. This pattern was one of the first ornaments which appeared on the older Egyptian and Grecian wares, and was subsequently used only as a secondary design for borders on the shoulders, necks and bases of vases. The *meander* was a characteristic Greek device. It is frequent on the Pueblo ware; an elementary example may be seen on the pitcher represented by Figure 4, and a more beautiful and improved pattern in Figure 9.

Fig. 9.



Meander on Pueblo Ware.

The *scroll* is simply a graceful modification of the *meander*, and occurs occasionally in the finer Pueblo

Fig. 10.



Pueblo Device.

productions. (See Figures 10 and 11, and compare them with Figure 12, which represents a fragment of pottery from Greece, in the Schliemann collection.)

Fig. 12.



Greek Pottery with Scroll.

The *Maltese Cross*, or a device analagous to it, is very common to the Pueblo pottery of the west, and is usually found decorating the centers of shallow bowls.

Fig. 11.



Pueblo Bowl, showing Scroll.


Figure 13 is a Greek design, on the Pueblo pottery. It might


Fig. 13.



Maltese Cross on Pueblo Ware.

also be considered a modification of the East Indian or Buddhist "suastika" or what the Chinese call "*wan-tse*" (the ten thousand things, — the creation). Dr. Schliemann says of this symbol, "The cross with the marks, of four nails may often be seen (in the ancient Greek pottery);

as well as the  which is usually also represented with

four points indicating the four nails, thus:  These signs cannot but represent *suastika*. formed by two pieces of wood, which were

laid across and fixed with four nails, and in the joint of which the holy fire was produced by friction by a third piece of wood." In regard to this, Mr. A. S. Murray, of the British Museum, observes, "Schliemann calls them '*suastikas*,' but they appear to be only the simplest form or element of the meander pattern. These crosses, along with the elements of other patterns, are much used in the so-called Asiatic vases to fill up the spaces, and they may be taken to be reminiscences of the earlier system of decoration." But aside from the "*suastikas*," the true Maltese cross appears frequently on the early, and some of the later, Grecian works. The *ivy-leaf* pattern is sometimes met with in the Pueblo ware as in Figure 14.

Fig. 14.



Modification of Ivy-leaf pattern.

On some of the latter ancient ware, are found, sparingly, representations of animal life, such as the deer, elk (Fig. 15), frog, goat, the heads of birds, etc., generally painted in black, on a white or light red ground, or moulded in the plastic clay, at the extremities of handles, or on the necks of jars. These only differed from the Archaic Greek paintings in the subjects selected, being usually such as were most familiar to the artist. A figure resembling the deer is a common representation among the Moquis at the present time. It is usually painted in black, with a passage extending from the mouth to the lungs, or, more probably, the heart. This organ is often colored red and is noticeable for its fidelity to nature, being single lobed and not the two-parted conventional device which some archæologists claim was employed by some of the Indian tribes of North America (See Fig. 2). Figures strikingly similar to these, are to be seen on a Cypriote vase in the Cesnola collection (Fig. 16).

Fig. 15.



Painting of Elk—Ancient Pueblos.

Fig. 16.



From a Cypriote Vase.

The productions of the Pueblos are usually so symmetrical and smoothly finished, especially externally, that it is certain some means were employed in order to attain such results. Some vessels were evidently moulded over gourds or other regular-shaped objects, as they present none of the asymmetrical characteristics of the ruder productions of savage or barbarous nations. It is probable, nay almost certain, that the wheel, or revolving stand, in its most rudimentary form, was employed. The wheel of the ancient Pueblo must have been even more primitive than that of the ancient Egyptian, which latter, as pictured in the hiero-

glyphics of tombs, was simply a low pedestal, surmounted by a horizontal disc, which was revolved with one of the hands of the workman, while the other was employed in moulding the vase. The Pueblo probably placed his clay on a flat stone, and while one hand was employed in slowly turning, the other was used in applying a curved object to smooth the external, and sometimes the internal surface into shape. Thus the *rotary principle*, at least, was known; otherwise we are at a loss to account for the beautiful and regular finish which characterizes this ancient ware. This supposition receives weight in the discovery, in the interiors of many vases, of horizontal and parallel hollows, formed unmistakably by the fingers and thumbs of the female potters. We cannot draw any inferences as to the former employment of the rotary principle from a study of the processes as practiced to-day by the Moqui, Pueblo and Zuni tribes of Arizona and New Mexico (the descendants of the ancient artificers), because the ceramic art has greatly deteriorated with the latter. They have lost the art of glazing; the quality of their ware is inferior, and they say that their attempts to discover the stone which their forefathers were in the habit of pulverizing and working into a paste, to produce the finer white ware which now lies scattered through the canons of the south-west, have proved futile. The majority of their vessels are rough and unsymmetrical, and the glaze, when any is present, is simply a superficial varnish or luster, incapable of being analyzed. If any of the American races derived from the East a knowledge of the art of moulding in clay, they certainly would have possessed, at least, vague traditions of the potter's wheel. Captain John Moss, of Colorado, who has lived for many years among the Western tribes, and has made their methods of manufacture an especial study, tells me that the modern Pueblo Indians of Arizona and New Mexico, in making their pottery, "use marl, which they grind between two rocks to a very fine powder. Then they mix this with water, and knead it as we would dough. Afterwards they roll it out into a rope-like shape one inch in diameter, and several yards in length. They then commence at the bottom of the jar, or whatever vessel they may be making, and coil the clay rope, layer on layer, until they have the bottom and about three inches of the sides laid up. The tools for smoothing and joining the layers together are a paddle, made out of wood and perfectly smooth, and an oval-shaped polished stone. Both of these tools are dipped in water (salt water is preferred), the stone is held in the left hand and on the inside of the vessel, and the paddle applied vigorously until the surfaces are smooth." The upper portions are afterwards added. The spiral coiling of the sides, and the final process of smoothing, would obviously necessitate a rotary motion of the vessel. Who

can say that the ancient Pueblos did not carry out the idea further than this?

The explorers of the mounds remark, "It is not impossible, but on the contrary appears extremely probable, from a close inspection of the mound pottery, that the ancient people possessed the simple approximation towards the potter's wheel, consisting of a stick of wood grasped in the hand by the middle and turned round inside a wall of clay, formed by the other hand or by another workman."*

It will be interesting to the original investigator, in this branch of the study, to carefully examine the large collection of this Pueblo ware (and probably the most satisfactory in existence at present), which has recently been placed in the museum of the Academy of the Natural Sciences, at Philadelphia,† and also that in possession of the United States Geological Survey, at Washington. It is true that throughout the ancient habitable globe occur forms more or less resembling Egyptian and Grecian fictile fabrics, but nowhere among the productions of pre historic nations will such a striking similarity to Egyptian ceramics be found as in the pottery of the ancient Pueblos of the United States. Whether this fact will assist in the settlement of certain disputed points, or bring us nearer the truth in regard to the origin of the American races, yet remains to be seen. In the mean time, we can only experience a degree of astonishment that the analogy should be carried out so closely in the terra-cotta productions of transatlantic peoples.

Fig. 17.



Pueblo Cup from the San Juan Valley.

*Ancient Monuments of the Mississippi Valley, p. 195.

†Collected by the author while connected with the Hayden Survey, and presented to the Academy by Professor S. S. Haldeman.

TRADITIONS OF THE "DELUGE" AMONG THE
TRIBES OF THE NORTH-WEST.

BY REV. M. EELLS,

Shokomish, Washington Territory.

Many of the Indians on this coast have a tradition of a Deluge. The Twanas on Puget's Sound speak of it, and that only good Indians were saved, though there were quite a number of them. It occurred because of a great rain, and all the country was overflowed. The Indians went in their canoes to the highest mountains near them, which is in the Olympic range; and as the waters rose above the top of it, they tied their canoes to the tops of the trees on it, so that they should not float away. Their ropes were made of the limbs of the cedar trees, just as they sometimes make them at the present time. The waters continued to rise, however, above the tops of the trees, until the whole length of their ropes was reached, and they supposed that they would be obliged to cut their ropes and drift away to some unknown place, when the waters began to recede. Some canoes, however, broke from their fastenings, and drifted away to the west, where they say their descendants now live, a tribe who speak a language similar to that of the Twanas. This they also say accounts for the present small number of the tribe. In their language, this mountain is called by a name which means "Fastener," from the fact that they fastened their canoes to it at that time. They also speak of a pigeon which went out to view the dead. I have been told by one Indian that while this highest mountain was submerged, another one, which was not far distant from it, and which was lower, was not wholly covered.

The Clallams, whose country adjoins that of the Twanas, also have a tradition of a flood, but some of them believe that it is not very long ago, perhaps not more than three or four generations since. One old man says that his grandfather saw the man who was saved from the flood, and that he was a Clallam. Their Ararat, too, is a different mountain from that of the Twanas.

The Lummi Indians, who live very near the northern line of Washington Territory, also speak of a flood, but I have not learned any particulars in regard to it.

The Puyallup Indians, near Tacoma, say that the flood overflowed all the country except one high mound near Steilacoom, and this mound is called by the Indians, "The Old Land," because it was not overflowed.

"Do you see that high mountain over there," said an old Indian to a mountaineer, as they were riding across the Cascade Mountains, about seventeen years ago. "I do," was the reply. "Do you see that grove to the right?" the Indian then said. "Yes," said the white man. "Well," said the Indian, "a long time ago there was a flood, and all the country was overflowed. There was an old man and his family on a boat or raft, and he floated about, and the wind blew him to that mountain, where he touched bottom. He stayed there some time, and then sent a crow to hunt for land, but it came back without finding any. After some time he sent the crow again, and this time it brought a leaf from that grove, and the old man was glad, for he knew that the water was going away."

The Yakima Indians also have their traditions, but at this time, writes Rev. J. H. Wilbur, their agent and missionary, it is impossible to tell what was their original traditions and what has been mixed with it from the early teachings of missionaries who were with them thirty or forty years ago.

When the earliest missionaries came among the Spokanes, Nez Perces and Cayuses, who with the Yakimas live in the eastern part of the Territory, they found that those Indians had their tradition of a flood, and that one man and wife were saved on a raft. Each of those three tribes also, together with the Flathead tribes, has their separate Ararat in connection with this event.

The Makah Indians, who live at Neah Bay, the north-west corner of the Territory, next to the Pacific Ocean, also the Chemakums and Kullileytes, whose original residence was near the same region, speak of a very high tide. According to their tradition, "A long time ago, but not at a very remote period, the waters of the Pacific flowed through what is now the swamp and prairie between Waatch village and Neah Bay, making an island of Cape Flattery. The water suddenly receded, leaving Neah Bay perfectly dry. It was four days reaching its lowest ebb, and then rose again without any waves or breakers till it had submerged the Cape, and in fact the whole country except the tops of the mountains at Clynquot. The water on its rise became very warm, and as it came up to the houses, those who had canoes put their effects in them, and floated off with the current, which set very strongly to the north. Some drifted one way, some another; and when the waters assumed their accustomed level, a portion of the tribe found themselves beyond Nootka, where their descendants now reside, and are known by the same name as the Makahs in Classet, or Kwenaitchechat. Many canoes came down in the trees and were destroyed, and numerous lives were lost. The water was four days in gaining its accustomed level."*

*See "Indians of Cape Flattery," by J. G. Swan; published by the Smithsonian Institution.

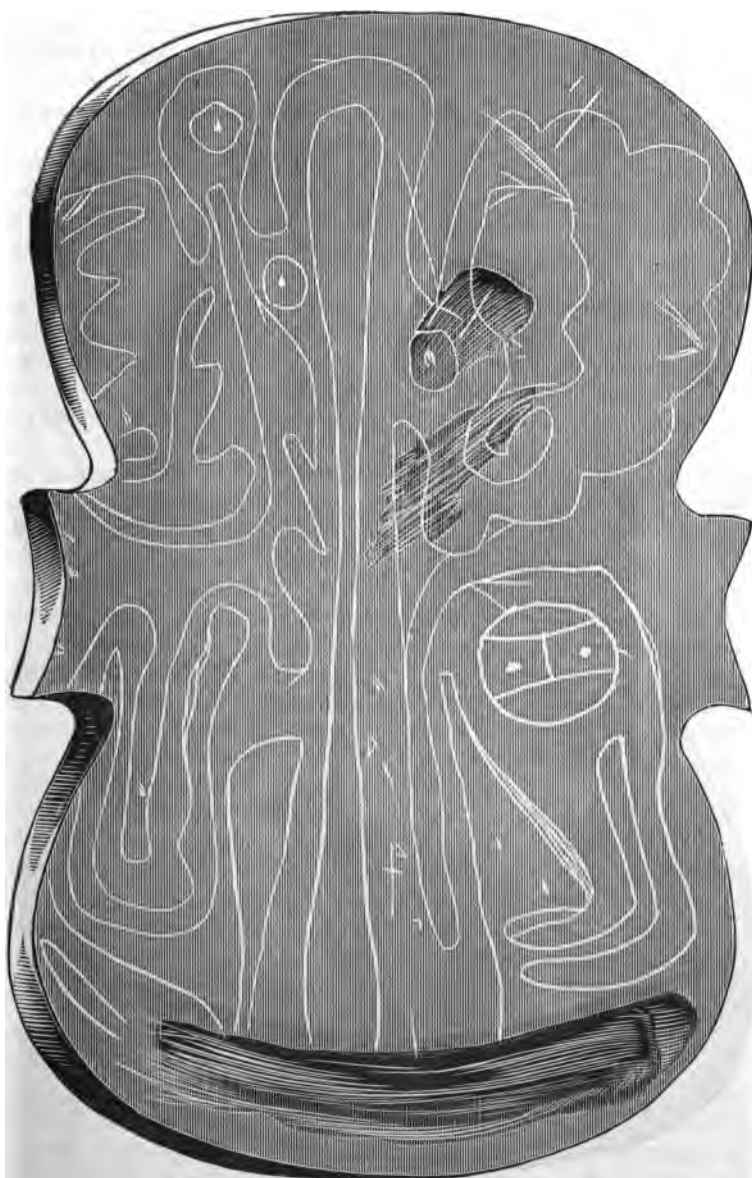
It is the opinion of Hon. J. G. Swan that this was simply a rising of the tides, and has no reference to the Deluge of Noah. I suggest, however, that if they had preserved any tradition of the flood in their migrations, when they settled at Neah Bay, where nearly all of their floods, though smaller, were caused by the rising of the tide, that they would naturally, in a few generations, refer it to the same cause. The natives of the Sandwich Islands, where floods are caused in the same way, have a tradition of a great flood, but refer it to the rising of the tide.

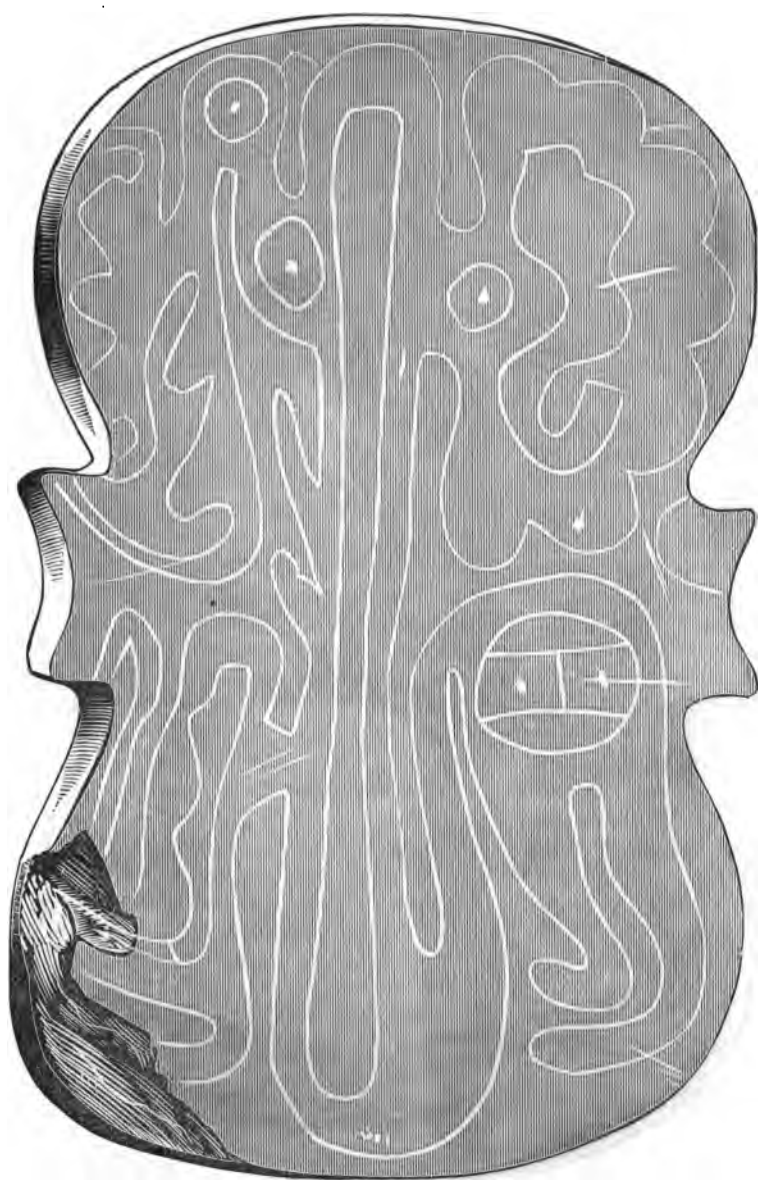
The Indians of the Warm Spring Reservation in Oregon, and of the Fort Hall reservation in Idaho, as far as I can learn, have no such tradition. It is possible, however, that they may have concealed it from their questioners, if they have one, as Indians do many of their traditions.

When these traditions are compared with those of other Indians in the eastern part of the United States, Mexico and South America, as well as the traditions and records of the Eastern Hemisphere, it forms in many minds a very strong argument in favor both of the truth of the Bible account, and also of the unity of the race.

Some have objected to these traditions that perhaps they were not handed down from former ancestors, but were received from early traders and teachers; but for four reasons I cannot accept the objection: (1) because the first travelers have often learned this tradition; (2) they will even now often distinguish between the traditions of their ancestors and the teachings of the first whites who came here; (3) they have names of their Ararat, the great monument of the flood, as "Fastener" and "Old Land;" (4) the Mexicans, when discovered, although they had no system of writing, yet had a way of representing events by pictures, and this event was recorded among others.

Hence we must either conclude that all the traditions had little or no foundation, which would be absurd, or that there were a large number of floods, which would be almost as absurd, for in that event the tradition of one flood in each tribe could not have been preserved so distinctly, especially when a bird of some kind, and a branch of some tree, is often mentioned in connection with it, or else that there was one great flood, so great that most of the descendants of those saved have preserved a tradition of it, and if so, all must have descended from the few who were saved.





DESCRIPTION OF AN ENGRAVED STONE FOUND
NEAR BERLIN, JACKSON COUNTY, O.

Read before the Archaeological Association at Cincinnati, September 5th, 1877.

BY JNO. E. SYLVESTER, M.D.,
Wellston, Jackson County, O.

It is with some feeling of timidity that I venture to offer for consideration an engraved stone, or memorial tablet; for perhaps no part of the subject of American Archæology has enlisted more attention or caused more controversy than this. The probability that on these tablets, if anywhere, we should find the solution of the question whether the Mound-Builders had a written language or not, has served to give them a double interest; and yet the fact that the first reported discoveries of such tablets have been questioned, and that several undoubted forgeries have occurred in this State, has made archæologists suspicious of every professed memorial stone, and some absolutely incredulous of everything of the kind emanating from Ohio.

Of memorial stones, I have found two, the first being this engraved stone; the second bearing no marks of tools, its position only showing its use. The engraved stone, or Berlin Tablet, as it has been called, was found June 14th, 1876, by Mr. Linzey Cremeans and myself. The mound from which it was dug is on the farm of Mr. Ed. Poor, on the edge of Lick township, and about a mile south-west of Berlin. The site of the mound is on the second bottom of a small tributary of Dixon's Run. We opened the mound by carrying a trench from the eastern side to the center. We encountered first the layer of rich, dark top-soil common to the rest of the meadow. Below, the dirt began to be mottled in appearance, showing a mixture of clay and top-soil. In this we found occasional traces of fire, such as bits of charcoal and ashes. At the depth of about five feet lay a bed of dark, mouldy dirt, showing some trace of fire, but not much. After digging around in this, and unearthing a few pieces of flint and some scales of burnt sand-rock, we became discouraged and thought of abandoning the exploration. At this time, Mr. Cremeans was in the trench, and Mr. Poor, myself and a son of S. A. Stephenson were sitting on the bank anxiously watching every stroke of the mattock. We concluded to carry the trench a foot or two further on, and then if we found nothing to quit the work. After awhile the mattock struck a rock; another blow gave the same sound. Mr. Cremeans

then laid aside the mattock, and taking his knife carefully dug the stone out.

It was placed on its edge, the ends pointing east and west, and was on a level with the original surface. The side which shows the mattock marks faced the north.

There was no possibility that the stone was slipped into this position by the digger and the dirt tumbled over it, for the earth was firmly packed around it.

The stone thus found is six inches long, three and five-eighths wide, and half an inch thick. It resembles in shape the body of a violin, except that, instead of the depression at the side, it has a projection having a concave edge. The engraving is of the kind known as line engraving. The design in one part represents, I think, the human figure. The remainder is made up of curved lines of considerable length, which are fashioned into shapes having apparently no meaning whatever. The line forming the outline of the human figure is continuous with the line forming the greater part of the rest of the design. A figure in the shape of a double-bladed oar runs longitudinally through the middle of the engraving, and at one end of the face of the stone are three circles, each having a dot in the center. The same design appears on both sides of the stone, although there is a wide difference in the execution of the two sides. The northern face shows the work of some one skilled in his rude art, the lines being evenly cut and of the same depth throughout; while on the other side they are often mere scratches, and sometimes doubled as if the artist had made a mis-stroke and then corrected it. This side shows also several indentations similar to those on the back of the Cincinnati Tablet. The design is continued through some of these; while one, which runs across the end and is the deepest, cuts away a part of the work. The material is a fine-grained sandstone of a grayish-brown color. Near this was found an irregular piece of the same material, having on each side indentations similar to those on the tablet. Two of them form a cross, but this, I think, is an accidental occurrence. A piece of graphite and two arrow-heads completed the "find."

On the 13th of November, 1876, I opened a mound on a ridge overlooking the valley of Little Raccoon Creek, near the Jackson and Wilkesville road. At the depth of four or five feet lay a bed of ashes about six inches thick, and in this, at the center of the mound, was a block of flint, or flinty iron ore, about a foot long, eight inches wide, and three and a half thick. It was placed on edge, the ends pointing east and west, as in the case of the engraved tablet. It bore no mark of tools, but appears to have been chosen by those who placed it there, because already shaped to suit their purpose.

These two stones, although so dissimilar, answered, I think, the same intention, just as we sometimes find in our grave-yards one

grave adorned by a costly granite, while beside it another is marked by a rough sandstone. These may have been merely markers, or they may have embodied some religious idea. Their probable purpose I leave others to discuss.

The Tablet was taken by Mr. T. W. Kinney, of Portsmouth, to the International Archæological Congress, at Philadelphia, in September, 1876, but was met by so many expressions of distrust that he did not present it to the meeting, the evidence that he then had of its authenticity not being conclusive. To meet these suspicions, I have procured the following certificates:

BERLIN X ROADS, Jackson Co., O., September 3d, 1877.

Having read the foregoing paper, I desire to state that it contains a full and true statement of the circumstances attending the finding of the engraved stone known as the "Berlin Tablet."

LINZEY CREMEANS.

BERLIN X CROSS ROADS, O., September 3d, 1877.

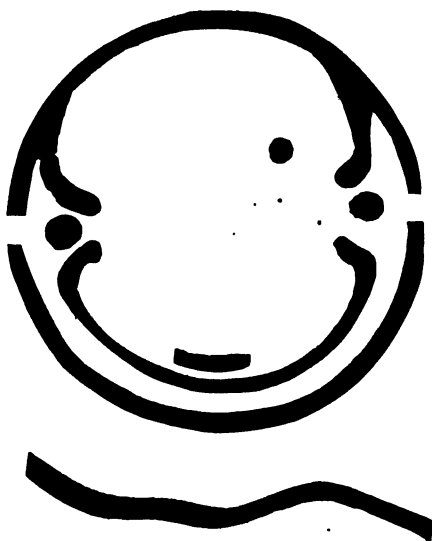
I wish to state that the foregoing paper is a true statement of the finding of the engraved stone known as the "Berlin Tablet." I have owned the farm on which it was found, and have lived within a quarter of a mile of the mound from which it was taken for the last sixteen years, and know that for that length of time at least it had not been disturbed, except by the plow, until it was opened by Dr. Sylvester and Mr. Cremeans. For fourteen years the field has been sown to grass. I have not now, nor have I ever had any pecuniary interest in the tablet, having, before the mound was opened, waived all my right to everything it might contain.

EDWARD POOR.

[NOTE BY THE EDITOR.—This stone was exhibited at the second annual session of the State Archæological Association at Cincinnati, Ohio, September 5th, 1877. Its genuineness was not doubted, but a diversity of opinion was expressed as to the significance of the figure. Some imagined that it represented a Labyrinth or a fortification; others, that it was the figure of a duck. The resemblance to an idol or human figure, as has been discovered in the "Gest Stone," is not easy to trace, if it exists.]

PREHISTORIC RUINS IN DADE COUNTY, MISSOURI.

To Mr. W. G. McDowell, we are indebted for the facts pertaining to a remarkable curiosity in Dade county, the existence of which, we understand, is unknown save to a few of our citizens. It lies near the edge of Connor's Prairie, about seven miles northwest of Greenfield, in section 29, township 32 of range 27 west, and about one hundred yards from the edge of the prairie, in the timber, and consists of a perfectly circular line of earthworks three hundred feet in diameter. The ground lies gently sloping to the south, where lies a small ravine shown in the diagram. The



northern part consists of a single ditch and parapet, while the southern portion, overlooking the ravine, consists of two distinct and parallel lines of trenches and embankments of considerable strength, with a third inner line in the central portion, as shown by the cut. On the east and west sides of the enclosure are two openings or entrances in the walls, each about twenty feet across. Here the walls are doubled, the outer ones preserving the circular form while the inner lines curve inwardly until the ends point to the center of the fortification. In the opening between the termini are

situate two mounds, one at each entrance, almost filling the entrances. The walls are five or six feet wide, and though worn now by the rains of centuries, are from two to four feet in height.

In the enclosure is an old well, now partially filled with debris, from which the prehistoric warriors or priests undoubtedly obtained their supply of water. The ground is covered with a growth of timber, and some large trees are standing on the embankments. That it was the work of a people whose history is unknown to us is evident; but for what purpose and by whom are idle speculations.

The subjoined diagram gives a very correct general idea of its appearance. The object is well worthy of a visit.—*Western Review of Science and Industry.*

GLEANINGS.

BY S. S. HALDEMAN, LL.D.,
Chickis, Pa.

One of the duties of the ethnologist is to search for ethnic material in the works of ancient and modern travelers, but as many of these know neither *what* nor *how* to observe, the inquirer is often disappointed. Thus, in the *Life of Mary Jemison*, treating of the habits of the Indians, she says: "We had no ploughs on the Ohio, but performed the whole process of planting and hoeing with a small tool that resembled, in some respects, a hoe with a very short handle." Here the material is not mentioned, whether of wood, stone or metal, nor the mode of attaching the handle, yet we may infer from this unsatisfactory note, that the flat stone implements we call hoes, are correctly named.

In the account of a Voyage to Florida by Pamphilo Narvaéz (1527), although the bows of the natives are mentioned as stout, and their arrows as fitted for execution, the material of the latter is not stated—yet we get the information by the incidental mention of another matter. The land expedition failing, a sick Spaniard remained with the natives and supported himself by trading from place to place with "Shells, Hides, red Oker, Canes to make the bodies of Arrows, and Flints to make the heads, and such like trifles." (Harris, 1, 802.) Each hut seems to have had a small mill for grinding maize—probably a stone mortar such as one now before me from Florida, about nine inches across and three in height; both sides excavated; material fine quartz gravel united by a calcareous cement.

STONE ARROW HEADS.

Edward Bancroft, who wrote his *Natural History of Guiana* in 1766 (published 1769) says that before the visits of Europeans the Indians pointed their arrows with "sharp, tapering, rugged stones," those in use when he wrote being armed with iron or with hard wood—as among our own Indians. But in both Americas there are localities of difficult access where stone continues in use, and the annexed figure represents an arrow-head of black hornblend slate, from the interior of British Guiana, of a shape new to me, being quadrangular, one specimen equilateral in section, the other



feet nine inches, of light cane nearly $\frac{5}{8}$ inch thick, outer end for 13 or 14 inches, of hard wood inserted in the cane and

bound with thread, head inserted into this and fastened in the same manner, as well as the hard-wood base with the *nock*—as the notch is called in archery.* The base has two fine feathers from the blue and red macaw, and this part of the shaft is painted in black and white lozenges. Probably used in shooting fish.

TOMAHAWKS OF HONOR.

The light, perforated tomahawks are usually made with skill, and often from striped ornamental stone. (See Rau, *Archeol. Collection*, 1876, f. 85-7; Abbott *Smithson. Rep.* 1875, f. 172-3). They have been called batons of honor, banner stones, ceremonial axes, sceptres of chiefs, or badges of office, because there seemed to be no practical use for them, altho, in some cases they have a small countersunk hole adapted for making bow-strings uniform (see Jones, pl. 13, f. 3), and in others the edge is marked with series of notches, as if a record or memoranda of some kind had been kept. I have a Susquehanna example of this kind, figured in *Am. Nat. st.* Nov. 1876, p. 674.† In the Chickis rock-retreat discovered by me in 1876 (announced by Dr. Abbott in *Am. Nat.* Apl. 1876, p. 241-2), the half of one was found in the yellow clay beneath about thirty inches of accumulated black mold, as shown to me by the finder, (Feb. 19, 1876), and as this mold contained stone arrow-heads with a friable surface, and chisels with the edge corroded and dulled by time, I think the age of the tomahawk and the older relics, as well as the occupancy of the retreat, may be assumed to reach fully 2,000 (if not 3,000) years. An unfinished specimen found in a field was lately brought to me, rudely pecked into shape, unboiled, and of remarkable size, being about eleven inches long and weighing two pounds and a quarter.

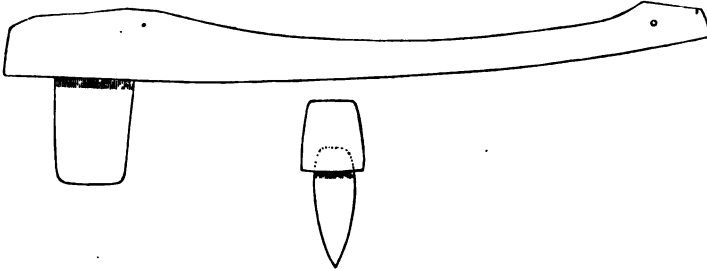
That these objects are correctly named seems probable from facts mentioned in W. B. Stevenson's "Twenty Years Residence in S. America," London, 1825. The country of Araucania is governed by four *Toquis* (tetrarchs). "The badge of a Toqui is a battle-axe." In a state of war the Toquis elect a dictator who "assumes the Toquis' badge, a war-axe—the four Toquis laying down their insignia and authority during the war." Vol. 1, p. 52.

I figure here (about one sixth the size) what I suppose to be a hatchet or ax of honor, lately received from the interior of British Guiana—an ax of black hornblend slate set for about a fifth of its length in a mortise in a wooden handle. The mortise seems to have been cut with a steel tool. The handle has convex sides painted black, the upper and lower surfaces and the ends are flat, and color-

*The feather that stands uppermost in shooting is named the cock-feather, and some of our tribes distinguish it by leaving a tuft of down on it, or by color, for in the hurry of shooting, the arrow must be placed without hesitation.

†In connection with the leaf ornament scratched upon this, I may mention seeing a fragment of clay pottery from Virginia, upon which a leaf (probably hickory) had been impressed before burning.

ed red. The entire length of the stone is $4\frac{1}{2}$, width $2\frac{3}{4}$, thickness $1\frac{3}{8}$ inches.



New Zealand adzes with an ornamental handle are believed to have been ceremonial. Captain Cook mentions having observed at Prince Williams Sound (Alaska) a stone adz somewhat like those at Otaheite and other Pacific islands.* At Oonalashka he saw an adz made by fixing a small flat piece of iron into a crooked wooden handle. I have one like this, but with a jadite or green serpentine bit shaped like a short specimen of the implements commonly termed chisels, or celts. See Rau, *Smithson Archæol. Coll.* 1876, p. 16, f. 71. This method of making a hand-adz by tying a (bronze) blade or bit to a crooked wooden handle was practiced in Ancient Egypt.



Captain Cook mentions that the beads of the Polyne-
sians were shaped with hatchets or adzes of a smooth black stone. I give here a reduced outline of such an adz, of a dense black lava, the top seemingly broken off, the whole clipped into shape, but the two surfaces forming the edge are smooth and polished—the edge slightly convex. Length about $3\frac{3}{8}$ inches, breadth at the edge $2\frac{3}{8}$, thickness 1 inch. I owe this interesting specimen to my friend, Lt. E. Houston, U. S. N., who got it at Hawaii.

BUNTS, OR BLUNT ARROW-HEADS.

Broken arrow-heads, particularly the base, were frequently provided with a new semicircular margin. (See Jones, p. 289, pl. 14, f. 11; Wilson 1, p. 86, f. 16, 17; Rau, f. 40.) Although we need not hesitate to call most of these objects scrapers, yet blunt arrows were sometimes used. In Cook's *Voyages* (World Displayed, 8, 255) we read of the natives, apparently on the west coast of Behring's Strait in 1788, that "their arrows were pointed either with stone or bone, but very few of them had barbs, and some of them had a round blunt point. What use these are applied to I cannot say, unless it be to kill small animals without damaging the skin."

*In Capt. Wilson's "Pelew Islands" (1788), two varieties are figured, in one of which the shell bit can be turned at right angles, thus allowing it to be used as an ax or an adz at pleasure.

KNIVES OF CANE.

The siliceous exterior of cane is well known for the cutting edge of detach sections. Captain Cook mentions the scraping off of the hair and the removal of the entrails of a butchered hog, with the edge of pieces of bamboo, and after it was baked, it was cut up in a masterly manner with the same implement. This was also used at Pelew (Account, p. 311), with knives made of mother of pearl, or other shells.

In Captain Smith's day the natives of Virginia used for a knife "a Splinter of a Reed, with which a Man wou'd wonder to see how very cleverly they'll cut their Feathers, and their Leather . . . also how they will open a Deer and joint him, and divide him into several Parts." Harris's Voyages, 1, 846. See also Dr. Wm. M. Gabb on the Indians of Costa Rica; Proceed. Am. Philosoph. Soc. 1875, p. 494.

SHAVING

May be mentioned in this connection. Capt. Cook saw a woman shaving a child's head with a shark's tooth fastened to the end of a stick. The hair was made wet and was taken off "as close as if a razor had been employed." He afterwards tried the instrument on himself and found it an excellent substitute for a razor. But the Polynesian men shave with two shells (seemingly acting like scissors) one being placed under some of the beard, the other used to cut or scrape above. The English sailors often had their beards treated in this manner, and the natives would go on board to be shaved in the English fashion.

A CAVE

Is described by John D. Hunter (who left the Indians in 1816) which seems worthy of exploration and search by digging. Hunter's party went up the Platte several hundred miles, to the Teel-tenah or Dripping Fork, a few miles above its entrance into that river, where there is a sacred cave once used as a cemetery. "The entrance is generally above the ground; and though narrow, of easy access." He mentions high ground near the cave; rills dripping from the abrupt banks—giving name to the stream and a salt-lick in the vicinity.

CHARCOAL

Is often mentioned as occurring in mounds and graves, but this alone is not sufficient evidence of the presence of fire, because slow combustion (eremacausis) may take place under such circumstances as to produce the carbonaceous result of charring, of which examples sometimes occur in trunks of trees left exposed by the falling away of river banks.

INDIAN FUNERALS.

Noah Webster wrote on Indian Funerals in 1788 (see p. 205-216 of his Essays, 1790), quoting Capt. Heart in the Columbian Magazine (May, 1787), and Jefferson's Notes on Virginia, where various barrows (mounds) are mentioned one of which Jefferson explored,

finding only human bones, confusedly mixed, which he estimated at a thousand skeletons.

A SEMI-CIRCULAR NOTCH

About one-third or three-eighths inch in size is sometimes present in the lateral margin of a thin leaf-shaped stone knife, as if too large a chip had been accidentally detached in getting the outline: but the size, regularity, and sharpness of edge, indicate that such a notch was for a purpose—such as scraping arrow-shafts, or material for strings; and a notch in the base of broken arrow-heads seems sometimes to have been rounded for this purpose.

A BASAL NOTCH.

Occurs in some arrow-heads (Jones, pl. 9, pg. 36; Abbott, figs. 66–68), which I have regarded as intended to be fitted upon a suitable elevation in the notch of the shaft to prevent lateral motion. Among some modern stone-tipt arrows presented to me by Mr. Johnston Moore, of Carlisle, Pa., I find a head adapted in this manner and fastened with gum of *Larrea Mexicana*, a wrapping of sinew being restricted to the end of the shaft. Besides the gum, other examples are tied with sinew passing through the ordinary notch on each side, as figured from a California example, in Nilsson's *l'Age de la pierre*, Paris, 1868, fig. 104. The same quiver contains an arrow (the shortest of the lot) with a dagger-shaped *iron* point five and a half inches long beyond the shaft, from which we may infer that certain supposed long and slender stone spear-heads may often have belonged to arrows.

—O:O—

SKETCH OF THE KLAMATH LANGUAGE OF SOUTHERN OREGON.

BY ALBERT S. GATSCHET.

The Pacific slope of the Sierra Nevada and of the Rocky Mountains in the British Possessions is inhabited by Indians whose race-type differs in many particulars from the one observed east of the Rocky Mountains. Their idioms, when classed in language-families, are found to extend over areas considerably smaller than those of the Mississippi Valley and the Atlantic Coast of North America. These linguistic stocks or families, and their limits, could be established with some degree of certainty only a few years ago, when material more trustworthy than heretofore came to hand, and even now these classifications must be regarded as *provisional* for different reasons. It will suffice to mention the two principal reasons

why a certainty in this respect can be expected only from more active investigations in the future :

1. We know of most of these idioms only as far as their lexicon is concerned, through scanty vocabularies, while the grammatic or morphological part of them is the only *decisive* criterion for linguistic affinity.

2. We do not know and never will know the historical evolution through which every one of these idioms has passed. This deficiency can be supplied, but in a certain degree only, by a careful study of the several dialects of one stock, where dialects exist. In several languages of the Old World we are enabled to trace this historic development through twenty or thirty centuries, and this has, f. i., made it possible to prove that the Irish and the Sanskrit languages have sprung from one and the same stock, though they seem, at first sight, to be totally dissimilar in grammatic forms as well as in their dictionary.

The Klamath language forms one of these narrowly circumscribed linguistic families, which to our present knowledge seems to have no congeners, though the idioms spoken on Middle Columbia River have not yet been thoroughly compared with it for want of material. This language is spoken by two tribes only, the Klamath Lake people and the Modocs, in two dialects which are almost identical and therefore should be called *subdialects*. The ancient home of these tribes is situated east of the Cascade Range, between 120° and 122° west of Greenwich, and from about 41° 30' to 43° 30' northern latitude, thus extending from southwestern Oregon into northeastern California.

The Modoc Tribe held the southern part of this area, roaming through Lost River Valley and the volcanic ledges between Lower Klamath Lake and Goose Lake. These Indians were called "Moatokni," "Dwellers on the Southern Lake," from one of their principal camping grounds on Modoc Lake, which is our Tule or Rhett Lake. Modoc Lake is called Moatok or Moatak in that Indian language, from *muat*, "south." This tribe first came into prominent notice through the bloody Modoc war of 1873, and as a consequence of this struggle one half of the tribe was removed to the northeastern portion of the Indian Territory (about 140 individuals), and the other half remained at Yainex, in Upper Sprague River Valley.

The Klamath Lake Tribe occupied the northern part of the ancient Klamath-Modoc territory. A portion of them haunted the shores of Klamath Marsh; others, the Plaikni, or "Uplanders," the country along Sprague River, while the main bulk inhabited the shores of Williamson River and Upper Klamath Lake, and were called E-ukshikni, or "Lake Dwellers," from e-ush, *lake*. The camps on Klamath Marsh are now abandoned, but the other settlements still exist, the whole population amounting to about 600 individuals.

The two tribes now live exclusively within the Klamath Indian Reservation. They call themselves *maklaks*, which means "those living in camps," and is also their common term for "Indians," and for "men" generally.

In the present *phonetic* state of the Klamath language consonants predominate in number over vowels about in the same degree as in Latin, and the language is easily pronounceable to those who have mastered two peculiar sounds, not occurring in English, the *k* and the *χ*. The laws governing the phonetic changes produced by assimilation, dissimilation and reduplication show that these Indians possess a fine feeling for phonetic harmony. Every sound can stand at the beginning of a word, but quite a number of them cannot become final sounds. Consonantic clusters produced through elision of vowels are mainly found at the end of words. Every vowel and every consonant is, just as in other American languages, interchangeable with one or several others pronounced with the same mouth organ. The language lacks *f* and *r*, makes very limited use of *z*, *o* and *ü*, while the sibilants *s*, *sh*, all gutturals, including *k* and *χ*, and the palatals *tch*, *dsh*, predominate over dentals and labials. The grammatical accent usually rests on the radical syllable, but is frequently removed from it by syntactic emphasis or by what is called the "secondary accent." Nasal sounds are rarely met with, and the diphthongs are of adulterine character.

Morphologically the Klamath tongue of southwestern Oregon is analytic in its relations of noun and verb to direct or indirect object, but synthetic in a considerable degree in its inflection, and still more so in its derivative forms. The parts of Klamath speech are more perfectly differentiated than in many other Indian languages, and although no true verb exists, only a noun-verb, it is made more distinct from the noun than this is done in Kalapuya, f.i. Its active form is identical with the passive, a large number of verbal prefixes and suffixes are common to the noun and this may be said also of the reduplicated form which indicates distribution and in many instances corresponds pretty closely with our plural. The possessive pronouns are not identical with the personal pronouns, though the majority of them are formed by the possessive cases of the latter. Substantive nouns can be formed from verbs by appending *sh*, though this same suffix also serves to form verbal nouns corresponding more or less to our infinitives and our participles in *ing*. Verb and noun undergo an inflection for tense, but in a quite different manner and with different suffixes. By prefixation and suffixation the Klamath verb forms medial, reciprocal, reflective, iterative, usitative, frequentative, causative, as well as many other forms, which we can only circumscribe by conjunctions or long sentences. Modes are partly expressed by suffixes, partly by separate particles, but no real incorporation of the subject-pronoun into the verbal basis is observed. This circumstance tends to make the acquisition of this upland idiom considerably easier than of many other Indian languages, in which a full conjugational system exists distinguishing the three persons through singular, plural and dual. On the other side a profound and unremitting study is required to comprehend the polysynthesis of the word-composing suffixes.

Klamath is eminently a suffix language, for suffixes preponderate to a large extent over prefixes, and what appear to be infixes or particles infixes into the basis, to indicate relation, are in fact not infixes into the monosyllabic root, but suffixes to it. Prefixes are used here to mark shape or external form in noun or verb, and in the latter to show the *genus verbi*, while suffixes fulfil the purposes of inflection and discriminate the various forms of speech from each other by becoming derivative or word-formative syllables or syllable-fragments. With great precision this language marks in its pronouns and verbal suffixes the distance of the real or supposed speaker from the persons or objects alluded to, and although Klamath cannot contend in power of abstraction with English, French, Italian or Spanish, it largely surpasses these idioms in graphic vivacity of expression, in terseness, concrete precision and laconic brevity. The tendency of being graphic and intuitively descriptive has produced a number of synonymous terms in all the Indian languages; a slight idea of this can be obtained by perusing Rev. Stephen B. Riggs' Dakota Dictionary. This collection contains over 15,000 terms, and Dakota is at least equalled in the amount of words by the Klamath idiom and probably surpassed by the Sahaptin dialects. Facts like these should at least dispel entirely the vulgar prejudice of the paucity of words and ideas to be found in the beautiful languages of our American aborigines, the wonderful structure of which has aroused the admiration of every student whose mind was above the common standard of mediocrity.

Compound words, viz: nouns combined with nouns, (and verbs with auxiliary verbs), are not uncommon, though as a rule *binary* only. The noun is inflected for case by case-suffixes and postpositions, and the case-suffixes are often compound ones. The declension of the adjective and the numeral differs somewhat from that of the substantive and is less complete in its forms, owing to the agglutinative character of the language. The formation of a distributive form by redoubling the first syllable, which is usually the radical, pervades the whole language down to the adverb and forms one of its most peculiar characteristics. Still more explicitly this feature is developed in the Flathead language of Montana, belonging to the Selish family, for it can occur there in three different shapes of one and the same term. A reduplication to form the plural is found in all the tongues of the Nahuatl and Numa (or Shoshoni) stock, but what we observe in Klamath differs from it in signification, being not a real plural, but a distributive form intended to mark severalty.

I conclude this rapid grammatical sketch with the remark that Klamath possesses no article, neither definite nor indefinite. But the expressive and deictic character of the language usually leaves no doubt in the hearers' mind whether *the* person or *a* person is meant, and the great variety of demonstrative pronouns and participles help to give precision to the speech in this respect.

THE LOCATION OF THE INDIAN TRIBES

In the North-West Territory at the Date of its Organization.

BY STEPHEN D. PEET.

The location of the Indian tribes has been undertaken by several authors, the chief of whom is Albert Gallatin who, in 1836, prepared for the American Antiquarian Society, and published his well known work "Gallatin's Indian Tribes." This, however, embraced only the regions East of the Rocky Mountains. The author has taken two dates for the location: the one, 1600 A.D. for the location of the tribes of the sea-coast; and the other, 1800 A.D. for that of the tribes of the interior; but he has not entered into any particular or specific description of the separate tribes of any one territory.

Later than this, Mr. L. H. Morgan prepared his volume on the "Consanguinity of the Races," which was published by the Smithsonian Institute. In this, the author attempts a classification of nearly all the tribes of the United States, but also gives only a general description.

More recently, Mr. Hubert H. Bancroft, in his five volumes entitled "The Native Races of the Pacific Coast," has given a classification and description of the tribes of the far west which, for the locality, is very complete and full.

The various government surveys under Major J. W. Powell, Prof. F. V. Hayden, and Lieut. Wheeler, are continuing the examination of the tribes which are still existing in the region of the Rocky Mountains and in the Territories.

There is one field, however, which has not yet received the attention of scholars, or even the notice of the government, and that is the region which was once known by the name of the North-West Territory. This territory lying west of the Alleghanies and east of the Mississippi River, and between the Ohio River and the Great Lakes, was once occupied by a large number of tribes of which no thorough classification or description has been given.

It will of course be impossible now to present, in the short limits of this article, a full treatise upon the subject; but we hope to describe the location of the tribes in this territory in the year 1787, with some degree of accuracy, and at the same time to refer to some of the previous history of the same people.

The sources of information on the subject are three:

- 1st. The narratives of explorers, travellers and missionaries.
- 2nd. The examination of old maps.
- 3rd. The study of Indian languages, relics, and traditions.

Now in reference to the first, it should be said, that almost every other portion of the continent was better explored at an early date than this. The Spanish explorers traversed the region south of the Ohio and west of the Mississippi. The French also traversed

the west, and their missionaries spent years among the tribes to the north; but this region was rarely visited. The route of Hennepin, La Salle, and Marquette, was around the Lakes and across the portage in Wisconsin, or up the St. Joseph and down the Illinois; but there is no record of any journey into the interior of this territory and no description of the tribes dwelling in it. Even the journey of LaSalle when returning from the "Fort of the Broken Heart" was by the shortest route across the southern part of Michigan, and so brought no contact with the tribes of the south.

The information which we gain from explorers is confined to a late date, so that we have to rely mainly upon the maps and upon other evidences. The study of the relics, of the words and names, and of the traditions, has been impossible thus far, but may be better understood by and by. The main source of information is Geography.

In our former article we described a series of maps in the Historical Rooms at Cleveland, in possession of Mr. C. C. Baldwin of that city, and drew from them our paper on "The Discovery of the Ohio River." We now propose to use the same collection in "The Location of the Indian Tribes." The date, 1787, has been chosen as it was the epoch when, perhaps, the most complete knowledge of the subject can be gained. It is also the date at which great changes in the tribes began to appear.

The History of our country may be divided into five periods :

- I. That of Discovery, from 1491 to 1620.
- II. That of Exploration, 1630—1680.
- III. That of Dispute of Claims, 1680—1750.
- IV. That of the Wars for Possession, 1750—1784.
- V. That of Settlement and Improvement and the Formation of States, 1784 to the present.

With the fourth period only, are we concerned at present. Great changes have occurred since that time. The maps of the interior then made have nothing in common with those of later dates.

Of the four centuries which have elapsed since the discovery, only two can be called a history of the interior, and the first of these two belongs mainly to the aborigines.

The maps of the interior began with Champlain's in 1615, but they never reached a completeness before De L. Isle's of 1720, and from that time to the year 1784 they were undergoing many changes. To this period, however, the location of the tribes of the interior belong. The chief reliance for this is then upon the maps of the period elapsing between 1720 and 1784. After that the changes of population became very perceptible. Not only were the French claims wiped out, and the names of the forts and trading stations changed or removed, but all of the Indian tribes disappear from the maps and the new geographical and political divisions take their place.

It should be said that the division of the Indians who dwelt east of the Mississippi was a threefold one, namely : Huron—Iroquois, the Algonquins and the Mobilians—located respectively on the Lakes, on the Ohio river and on the Gulf of Mexico—though there

were changes which had affected the position of all the tribes. The Huron and Iroquois, which were of the same stock, were at war and the Hurons had been driven from their seat on the Lake of that name and been displaced, and many tribes appeared in the interior which did not belong there.

These three families, however, constituted nearly all the tribes which occupied the eastern moiety of the continent—with the exception of the Athapascans who were located near the Hudson Bay, and the Esquimaux, who have always occupied the Arctic regions. Of the three races the Algonquin was much the most extensive and wide spread. Their habitat originally reached from Lake Superior to the mouth of the St. Lawrence, and from the coast of Maine to Pamlico Sound along the Atlantic coast, and from the river Roanoke to the head waters of the Ohio, and westward to the mouth of that river, and from that point, including all south and west of Lake Erie, to Lake Superior again, leaving the Iroquois on Lake Ontario like an island in the midst of a great sea.

The family of the Algonquins was thus divided into three great branches: 1, That to the north of the great Lakes; 2, Those on the Atlantic coast, and, 3, Those west of the Alleghany mountains and east of the Mississippi.

I.

THE IROQUOIS.

It is proper, however, to first give a description of the IROQUOIS TRIBES, for they are the first to appear on the maps, and their name very soon spreads over the whole surface which had been occupied by the Algonquins of the interior.

The earliest mention made of this far famed people was by Champlain in 1609. They were then located on the Eastern end of Lake Ontario in the State of New York. La Hontan also speaks of them as early as 1683, and says:

“These barbarians are drawn up in five cantons, not unlike those of the Swisses. Though these cantons are all one nation, and united in one joint interest, yet they go by different names, viz: the Sonontouans (Senecas), the Goyogoans (Cayugas), the Onnatagues (Onondagas), the Onnoyouts (Oneidas), and the Agnies (Mohawks). Their language is almost the same; and the five villages or plantations in which they live lie at the distance of thirty leagues from one another, being all seated near the South side of Lake Ontario, or Frontenac. Every year the five cantons send deputies to assist at the Union Feast, and to smoke the great calumet or pipe of the five nations. Each village or canton contains about fourteen thousand souls, viz: 1,500 that bear arms, 2,000 superannuated men, and 4,000 children.

“There has been an alliance of long standing between these nations and the English, and by trading in furs to New York, they are supplied by the English with arms, ammunition, and all other necessities, at a cheaper rate than the French can afford them at. They look upon themselves as sovereigns, accountable to none but God alone, whom they call the Great Spirit.”

La Hontan's map of 1703 also has a line drawn from Lake Champlain across the region where these five tribes are located, south of Lake Ontario; also across the States of Ohio, Indiana and Illinois, and to the Mississippi to the mouth of the Wisconsin; and it is stated: "This faint line represents y^e way that y^e Illiniss march thro a vast track of ground to make war against y^e Iroqueuse—the same being y^e passage of y^e Iroqueuse in their incursions upon other savages as far as the River Mississippi."

(1.) The first noticeable change in the territory of the Iroquois is, that the tribes are located farther west and south and their land extends even into Pennsylvania and Ohio. As early as 1683, however, R. Blome places the "Senneks" among the "Filians" (or Eries), at the South of Lake Erie. A political division also soon appears on the maps. It is called "Iroquois," and was recognized at this date as a geographical district on the map as one of the States or Territories. According to this the boundaries of their territory in 1722 extended from Montreal to the Susquehanna, thence west to the west end of Lake Erie, north to Lake Huron, and back east to Montreal,—embracing about half of Pennsylvania and Ohio, all of Lakes Erie and Huron and Ontario, and a part of Canada. The State of New York is crowded into a small territory in the neighborhood of the Adirondacks, and covers only a three-cornered strip between Lake Champlain and Lake Ontario, and along the Hudson River to its mouth.

The territory of the "Illinois" adjoins the "Iroquois" as far east as Lake Erie. The contest between these two tribes finds an early mention in history. La Hontan, in passing Niagara Falls, mentions the cataract, but was in danger from the Sonontouans (Senecas) who were in that vicinity. He speaks of the island, Mantoualin, and says: "In former times it was possessed by the Outaowas (Ottawas), called Otoutagans, who were dislodged by the progress of the Iroqueuse that has ruined so many nations." Of the region about Thunder Bay he also says: "This country is the ancient seat of the Hurons, as it appears from the names they gave to their own nation, in their own language, viz: Theonontateronons, (*i. e.*, the nation of the Thionotate). But after the Iroqueuse had upon divers occasions taken and defeated great numbers of 'em, the rest quitted the country to avoid the same fate."

(2.) Another change occurs in the territory of the Iroquois, in the maps of 1755. At this time the territory embraces all the "Great West," including all the land north of the Ohio and south of the lakes, from Lake Ontario to the Mississippi River. Lewis Evans' map mentions them in the following language: "The confederates, formerly of five now of seven nations, called by the French, Iroquois, consist of—1st, Canonagues (or Mohawks); 2nd, Onoyuts (or Oneidas); 3rd, Onondagas; 4th, Cayugas; 5th, Chenandoares (or Senecas); 6th, Tuscaroras; 7th, Sississogies." The title of the map designates "the country of the confederate Indians," comprehending Aquanishnonigyon their place of residence, Tunasonruntic their deer-hunting countries, and Skaniadarada their beaver-hunting countries, wherein is also the ancient and present

seat of the Indian nation." It appears from the map that their "place of residence" was in the State of New York, their "deer-hunting country" was in Ohio, and their "beaver-hunting countries" are in Canada. This map draws a line of the Iroquois lands south of Ohio, and represents their territory as embracing all the region west of the Alleghanies. He locates the Illinois near the Mississippi, and says of them: "The Illinois mostly inclined to the French in the treaty at Utrecht and to the English in that of Ai-La-Chappelle."

The changes of this tribe have been, up to this date, very great. The maps confirm the history in showing the aggressions of this powerful people. They have already incorporated two tribes and swallowed up several others. The "Eries" and the "Neuters" who were immediately west of them, were entirely absorbed without making a separate nation. The Hurons and Delawares were subdued but were not incorporated.

The Tuscaroras were the sixth nation. The seventh nation was the Sissisogies, located in the State of Michigan, called on Mitchell's map the Nicariages. The eighth were the Missisaugas, located by Mitchell first north of Lake Huron and afterward in the interior of New York, and were a branch of the great Ottawa tribe, that were located near Lake Superior. They afterward ranged from the south shore of Lake Superior to the east end of Lake Erie, and lingering remnants of them were in Ohio as late as 1812.

Thus the Five Nations drew from as far south as North Carolina and as far North as Lake Superior, nations who were incorporated with them, while the intermediate tribes, the Delawares on one side and the Hurons on the other, they subdued.

(3.) A third change in their territory is made by conquest. Thomas Hutchins, in 1768, assigns the whole country west of the Alleghanies and as far south as the Gulf of Mexico, to the Iroquois. His map mentions that "All the country south of the Ohio, to and southwest of Pennsylvania, with the exception of a small district called Indiana, as far south as to the mouth of the Cherokee River, extending to the Alleghany Mountains, was sold to His Majesty for the sum of 10,460 pound sterling 7s. 3d. as by their deed bearing date Ft. Stanwix, in the Province of N. York, on the fifth day of November, 1768." The Indiana referred to is a little district on the map, located south of the Ohio River in the vicinity of Wheeling. "The Illinois Country" is situated between the Wabash and Illinois Rivers—a strip of land running across the present States of Indiana and Illinois, as far as to the Mississippi River. The whole country about it at this time belongs to the Iroquois, and the map represents that even the Cherokee and Choctaw at the south were possessions of the *Six Nations*. It should be observed, however, that the English maps were inclined to extend the Iroquois territory to the widest limits, while the French maps scarcely recognize any of the territory as belonging to the "*Six Nations*," but call this whole region by the name of Louisiana. The reason for this is that the English based their claims to the territory on their purchases from the Iroquois.

The Iroquois did also claim this territory by the right of conquest and sold it, in various treaties, to the English. There were one or two other tribes added to the Six Nations, but it is not essential to mention them.

The spread of this people after history began was quite remarkable, and yet it was a growth which ended in their destruction. Their name soon disappears from the maps which follow this date. They sold the land which they conquered from others and disappeared themselves. The maps which follow have "Reservations" upon them in New York and Ohio, but some of these soon disappeared.

II.

TRIBES OF OHIO INDIANS.

We now come to the tribes which inhabited this region in question, but first consider those located in Ohio, or in other words the Ohio Indians :

1. The first tribe which we shall consider are the Eries. It should be said that the Eries do not appear on the maps as having an existence here later than about the year 1620 or 1650, but their names are still retained, and therefore we consider their location and history.

The Eries are, of all the tribes of the great West, the earliest to be recognized by Geography. They are always located on the same place, on the south shore of Lake Erie and east of the Cuyahoga River. They are first mentioned under the name of the Felians on Champlain's map of 1680 ; and again on a map of Richard Blome in 1683, and they retained this position on all the maps until 1735, with one exception. La Hontan's map of 1703, places them near the west end of Lake Erie, but Charlevoix again in 1744, locates them near the east end, with these words : "The Eries were destroyed by the Iroquois about 100 years ago." John Hutchins also, as late as 1755, places the name across the whole length of Lake Erie, at the south of the Lake, and adds these words : "The ancient Eries were extirpated upwards of one hundred years ago by the Iroquois, ever since which time they have been in possession of Lake Erie." It is not our object to give the history of this tribe, but they are the people who inhabited the region where other tribes were only wanderers, up to the time of the settlement of the country by the whites. It is strange that no remnant of them survives to the Historic period so as to be identified as belonging to the tribe. All that is known of them, is known by tradition and their name on the early maps. They gave their name to the Lake, which it still bears. It is supposed that the burial places and skeletons which are found in this region belong to this people. There are two classes of earth-works in this region, and it is probable that the later belong to the Eries. If so a race of mound-builders preceded them. But the Eries are the earliest known inhabitants. The names of the streams as well as the Lake are supposed to belong to them. These names, according to J. H. Trumbull, are not Algonquin and may be Erie.

As to the Eries, and to what stock they belonged, it is impossible now to determine ; but it is probable that they were only another branch of the Iroquois family. At the time that the confederacy of the Five Nations was formed, the Wyandots or Hurons were to the northwest, the Eries to the southwest of them, both belonging to the same stock. Another tribe, the Neuters, also dwelt to the westward of the Iroquois, on the belt of land between Lake Huron and Lake Erie. They were called the Neuters because their land was neutral ground between the Iroquois and the Hurons. By some of the early maps they are located south of Lake Erie, and it is probable that their territory originally extended across the east end of that Lake, and possibly on both sides, north and south. They were destroyed by the Iroquois after the advent of the Jesuits. If the Hurons, Neuters and Eries are included with the Iroquois we readily see what the original territory was which belonged to the Iroquois.

This country of the Iroquois seems to have never been possessed by any tribe after the destruction or removal of those tribes. This is true of the land of the Eries especially. In the later maps the Senecas are at times located there, and again the Mingoes or Minsis of the Delawares, and again the Andastes. About the time of the French and Indian war of 1755 various trading posts and forts appear on the Alleghany River and the Beaver and the French creeks, but the Indians occupying seem to have been a mixture of many tribes, and no one tribe ever claimed it.

2. The second tribe which we shall consider is that of the Wyandots or Hurons. This tribe, at the time when the history of the Territory begins, was located on the south shore of Lake Erie but west of the Cuyahoga River, and from the Lake southward to the head waters of the Scioto and Miami Rivers. The Wyandots were at the time a subjugated people, and were located here only by permission of their conquerors, the Iroquois. The first record we have of this people on the maps is at the time of the Jesuit missions among them in 1620 and later. They were at this time occupying the shores of Lake Huron, though there is a tradition that they originally belonged as far east as the St. Lawrence. At the time of their subjugation by the Iroquois they fled, first to the northwest and took refuge with the Ottawas and others, in Michigan and Wisconsin. Here, however, they were met by another hostile race which had been pressing down from the northwest as a stray tribe of the great Dacotah race. The Wyandots therefore turned backward and at last settled on the territory before mentioned. It is possible that their kinship with the Eries may have given them some acquaintance with this territory. At any rate they entered upon it, and are found here on some of the early maps. Lewis Evans, in 1755, says, "The Wyandots were assigned to this territory by the express leave of the Iroquois." They were then the occupants of Sandusky, and as history opens we find them located there, and at the same time mingled with the Delawares in the southeastern portion of the State of Ohio. Many of the names "lingering upon the waters" are Wyandot names. The Wyandots were a warlike people, and never

surrendered themselves prisoners in battle, but were, after their settlement in this territory, subject to the Iroquois. They did not claim the land, and so their name appears in no treaty until after 1784.

3. The Delawares. This was an Algonquin tribe, removed from the Delaware and the Susquehanna to the Alleghany and the Ohio Rivers. They were also early subdued by the Iroquois and were permitted to occupy the lands west of the Alleghany Mountains. Their names appear on the earlier maps upon the Atlantic coast among the Nanticokes and the Susquehannocks, just north of the Powhattans and the Pamlicoos. At the same time the Andastes were occupying the Alleghany River and the upper Ohio. Their first removal was after the treaty with William Penn and the celebrated "walking purchase." But their emigration westward of the Mountains was later in history. By the treaty of Lancaster, A. D. 1744, they sold their lands lying in Virginia, and again, by the treaty of Logstown, in 1752, they, with other tribes, consented to the "settlement of whites" south of the Ohio. In 1785 they again ceded their homes north of the Ohio and east of the Cuyahoga. Their territory is defined by the following lines: "From the mouth of the Alleghany River, at Fort Pitt to Venango—and from thence up French creek and by Le Bœuf along the old road to Presque Isle *on the west*. The Ohio River, including all the Islands in it from Fort Pitt to the Oubache *on the south*; thence up the Oubache to the broad Opecomecah, and up the same to the head thereof; and from thence to the head waters and springs of the Great Miami or Rocky River; thence across to the head waters and springs of the most northwestern branches of the Scioto River; thence to the head westernmost springs of the Sandusky River; thence down the same river, including the Islands in it and in the little Lake, to Lake Erie *on the west* and northwest, and Lake Erie *on the north*." This was the boundary given by their delegates to Congress at Princeton, on the 10th of May, 1779—a boundary, however, which included the land assigned to the Wyandots as well as their own.

The Delaware villages were, however, on the Muskingum and on the Beaver, and according to Cist's Journal of 1754, were not found west of the Hockhocking. The name of a Delaware tribe, the Munsees, appears frequently on the maps as far up the Ohio as the Venango. We can then safely locate these people on the Ohio and its tributaries—between the Venango and the Scioto Rivers, and may expect to find traces of their habitations in this vicinity, as well as their names or words given to streams and villages in this region.

The Shawnees were another tribe belonging in Ohio. The first that is known of the Shawnees is that they were located on the south of the Ohio and Cumberland Rivers.

This is the position of their country on all the early French and English maps as late as that of Hutchins, though they may have been driven from the region north of the Ohio. The Sauks and Foxes say that they were originally of the same stock with themselves and had migrated to the south.

A portion of them, however, located on the Miami in Ohio. At the settlement of this country they were on the Delaware and are mentioned by DeLaet as early as 1632 as in this locality. In 1672 they seem to have been allies of the Andastes, an extinct Iroquois tribe, and were located southwest of the Senecas, on the Susquehanna.

Lawson says that they formerly lived on the Mississippi, but removed to the head of one of the rivers of South Carolina. There they came in contact with the Cherokees and the Catawbias, but afterwards settled on the Savannah.

The Shawnees seemed to have been the especial enemies of the Iroquois. That people, after destroying the Andastes, also attacked the Shawnees, who were on the Miami, and scattered them.

This was in 1672, the same year with the attack on the Andastes. They are, however, found soon after this among the Delawares, on the Delaware River, and seem to have remained there until about the year 1740 when they began their emigration back again to the valley of the Ohio. They were then located, by permission of the Wyandots and the Iroquois, on the Scioto River and its vicinity, and here their chief town was located, called by the English, "Lower Shawneetown." They were a wandering people and have left their names on the maps in many localities. The Sawnee River in South Carolina, the town of Piqua in Pennsylvania, Shawneetown in Ohio, and the River Chouanon of the old maps, (now the Cumberland), all indicate how extensive their wanderings were. They were a warlike people. Tecumseh and his brother the prophet were both Shawnees.

III.

WESTERN TRIBES.

A third division of the tribes of the North West Territory may be recognized. For the sake of convenience they may be called Western Tribes. This term may be indefinite, and yet it helps to distinguish them from both the Iroquois and the Ohio Indians, who, for the most part, belonged east of the Alleghany Mountains. It is a distinction known to history, for the Western League formed during Pontiac's conspiracy, embraced nearly all of these tribes, and very few of those farther east. They were nearly all of Algonquin descent, the only exception being the Mitchegamias, a branch of the Arkansas, and the Winnebagoes, a branch of the Dacotahs.

It is remarkable that these Western Tribes followed the same geographical lines in their location and habitation that the modern white inhabitants have, and that Indiana, Illinois, Michigan and Wisconsin have preserved the same boundaries both among the white and the native races. The names of these States are all Indian, taken from the tribes which inhabited them before the whites did.

The Western Tribes were divided into the Miamis, whose habitat was on the Miami River and westward of it to the Wabash; the Illinois, located on the Illinois River, or between the Wabash and the Mississippi; a group of tribes located in the State of Wisconsin, and another group situated in various parts of Michigan. The

appearance of the various tribes on the maps of 1755 to 1760 was according to this grouping, and we observe the same division.

1. We mention first the TWIGHTWEES or the MIAMI group. These were composed of three separate tribes, the Miamis, the Twightwees and the Pinkeshaws, located north and south between the two Rivers Wabash and Miami, in the present State of Indiana.

(1). The Miamis proper were the northernmost of them all, and occupied the region drained by the Maumee. They are located by nearly all the maps in what is now the northern part of Indiana, and their territory extended from Lake Erie and the Maumee River to Lake Michigan and the head waters of the Illinois River.

(2). The Pinkashaws were just south of the Miamis, but were mainly on the Wabash River. In Mitchell's map they are located between the Miamis or Miammees, and the Wauwaughtanees, and their name is spelt Pyankashees. This tribe was probably then known as the Eel River Indians, though another tribe called Pickawillanees, or Picta, is located on the head-waters of the Miami, and a town called Pickawillany is located on the spot where now stands the city of Piqua, and may have been the one called by that name. An English fort is here also, and the map states, "English Fort established in 1748—the Extent of the English Settlements."

(3). The Wawiaxtaas, or Wawaughtanees, according to Mitchell, were the southernmost of the three. These were also on the Wabash at the date we are considering. Originally they were located at the mouth of the Miami, but at an early date they invited the Shawnees to aid them in resisting the Iroquois and allowed them to locate on the Miami.

Gallatin says, "In the year 1684, in answer to the complaint of the French that they had attacked the Twightwees or Miamis, the Five Nations assigned as one of the causes of the war that the Twightwees had invited into their country the "Satanas" (the name applied to the Shawanoes, Calden, c. v. pp. 69-70), in order to make war against them."

The Ouitanous, or Waugh-Waughtanees, or Weas, or Wawiaxtas, sent deputies to the treaty at Lancaster in 1748. They had, in 1750, two villages on the Wabash called Great Wiaut and Little Wiaut, names which are still retained in the "Wea" of Indiana.

The Miamies, when first visited by French Missionaries in 1669, were a numerous people. Their language, according to Gallatin, bore great affinity to the Illinois, and was even classified by a certain priest who had gathered a vocabulary, as the Pi-Illinois-Mi, including Pinkashaw, Illinois and Miami. Charlevoix also says in 1721 that there is no doubt that the Miamis and the Illinois were not long ago the same people.

2. THE ILLINOIS. This was the people which Father Marquette first met on the Mississippi River on his first voyage of discovery. In answer to his salutation and the question, who they were, they said Illinois, we are "men." The location of the Illinois was on the river Illinois. They gave their name to the State, and for a time Lake Michigan was called Lac de Illinouecks. They were, according to Gallatin, divided into five tribes, the Kaskaskias, Cah-

kias, Tamaronas, Peorias and Mitchigamias—though the last named tribe was one which had been admitted into their confederacy from the Arkansas, west of the Mississippi River. The Illinois were, in 1670, a numerous tribe, amounting to ten or twelve thousand. The French established themselves among them at Vincennes and at Kaskaskia at an early date, and the oldest settled town in all the Mississippi valley bears the Indian name, Kaskaskia having been located near an Indian village of that name.

The "Illinois Country" appears on some of the early maps as a district by itself. It embraced the strip of land between the Illinois and the Wabash; while below it, and between the Wabash and the Ohio, the country is said to be "a place where the Indians hunt cows." The location of the different tribes of the Illinois is not so distinct as that of the Miami. The Peorias, or Illinois proper, occupied the central position, and their ancient village was on the site of the city which still bears their name, while the Kaskaskias and Cahokias are located near the towns which bear their names.

On Mitchell's map, "antient villages of the Illinois destroyed by the Iroquois," are located near "Starved Rock," and the "Fort of the Miamis" is also in the same locality. Pimiteoui is the name of the town and of the lake now called Peoria. It was among the Illinois, or more properly, the Peorias, that LaSalle built his fort called Creve Cœur, or the Broken Heart, and it was during his stay among them that such a fearful destruction was brought upon the people by the Iroquois.

There is on John Mitchell's map, published in 1755, a line drawn along the Illinois River, from the Mississippi to the Lake, and these words are on it, "The western bounds of the Six Nations, sold and surrendered to Great Britain." A town called "Quadoghe" is also located at the head of the Lake, and it is stated below the name, "So called by y^e Six Nations as y^e extent of their territories and bounds of their deed of sale to y^e crown of Britain, 1701, renewed in 1726 and in 1744." There is also on this same map an inscription which is important as showing the history of all the tribes mentioned. This inscription is written just below the Illinois river and the line before described and is as follows :

"The Six Nations have extended their territories to the River Illinois ever since the year 1672 when they subdued and were incorporated with the antient CHAOUANONS, the native proprietors of these countries and the River OHIO. Besides which they claim a right of conquest over the Illinois and all the Mississippi, as far as they extend. This is confirmed by their own claims and possessions in 1742, which includes all the bounds here laid down, and none have ever thought fit to dispute them. The OHIO INDIANS are a mixt tribe of the several Indians of our Colonies, settled here under the Six Nations, who have allwaies been in Alliance and Subjection to the English. The most numerous of these are the Delawares and Shawnoes who are natives of Delaware River. Those about Philadelphia who were called SAUWANOOS, we now call SHAWANOES or SHAWNOS. The MOHICK-

"ANS and MINQUINOS were the ancient inhabitants of the 'Susquehanna River.'"

3. We now come to a large group to which no general name has been given. They might properly be termed NORTHWESTERN TRIBES. They are, indeed, a part of the so-called Western Tribes, but can only be grouped geographically, as there seemed no tribal unity among them.

(1). The first of these which we shall mention are the Kickapoos. On the earliest French maps of 1680 and earlier, we find a single name of an Indian tribe, located near the head of Lake Michigan. This people was called the "Nation de Fou" or the Fire Nation. What this nation was, is unknown. Later, however, we find the Mascoutens situated in the same vicinity, though further north and west. This name, too, was a very mysterious one, as no tribe was known by that name. Charlevoix, however, informs us that the Mascoutounek means "a country without woods—a prairie." The name Mascoutens was therefore, says Gallatin, used to designate "Prairie Indians." Whether the Kickapoos were the tribe indicated is uncertain. Gallatin says that they were mixed with the Sauks whose language resembled theirs, and also says, "the country assigned to the Mascoutens lay south of the Fox River of Lake Michigan, and west of Illinois River." This is the locality assigned also to the Kickapoos. Taking this as conclusive, we should locate the Sauks as a little north and west of them, in the State of Wisconsin, and should apply the name Mascoutens either to them or to the Sauks according to the information we can gain.

(2). The Outagamies. They are called Outagamies, Reynards and Foxes. In the year 1665 the French Missionaries came in contact with these nations or tribes, all of which spoke the same language. These were the Sauks, the Foxes and the Mascoutens. The Sauks and Foxes seem, however, to have been the same as their names are always associated. "They had," says Gallatin, "their seats toward the southern extremity of Green Bay, on the Fox River." "In the year 1712 the Foxes became hostile to the French and with the Kickapoos and Mascoutens or Sakies, attacked Fort Detroit." The Fort was, however, defended by the Ottawas, Hurons and Pottawattamies, and they were compelled to retire. But in 1722 they, accompanied by the Winnebagoes and the Chickasaws, attacked the Illinois and compelled them to seek refuge among the French settlements at Kaskaskia. At the time of the organization of the Northwest Territory the Sacs and Foxes, with the Kickapoos, were the possessors of nearly all of the south part of Wisconsin and the northern part of Illinois. Their name often appears on the French maps. They were called by the French the Reynards, and by the English the Outagamies, but later in history they have gone altogether by the name of the Foxes.

(3). The Winnebagoes. A disconnected fragment of the great Dacotah Race located on the Wisconsin river, differing in language and appearance and lineage from all the rest. Their habitat was west of the Wisconsin but east of the Mississippi.

(4). The Menominees. On all the maps of the great West we find the name of the Menominies or Malominies located just north of Green Bay, and extending along the river which bears the same name. Occasionally the name will be associated with the Pottowattamies and the Foxes, and villages of each of these tribes, with the names of the Jesuit Missionaries, will be marked on the map. The Menominees were bounded on the north by the Chippewas and Ottawas, and on the west by the Winnebagoes, on the south by the Foxes and on the east by the great Lakes. They were known to the French as early as 1665, but were always located in the same place. By the French they were called Folles Avoines, or "Wild Oats," probably from the fact that they were so often seen in their canoes among the tall grass gathering the wild oats which grew in such abundance in the shallow portions of Green Bay. The Menominees are the tribe among which the Jesuits established missions at a very early date, and still continue them, the tribe having received a reservation in the vicinity of their old home.

(5). The Ottawas. This was a powerful tribe whose chief seats were on the south shore of Lake Superior. They were the most remote of all, and yet were the most troublesome to the whites. Pontiac was an Ottawa chief, and his tribe were the leaders in the great conspiracy of 1763. Situated as they were, so remote from the whites, they were the last to surrender their power. Having long been the voyagers of the great Lakes and the Ottawa River, it was easy for them to gather with their allies at the Fort on the Straits, and seek to infuse their own wild and warlike spirit into the other tribes, while they themselves were comparatively safe, for they could easily retire, if defeated, to their distant haunts and suffer no loss. They are properly a Canada tribe. They were first located as far east as Lake Ontario, and here frequently came in contact with the early French explorers and missionaries. They, however, traversed the Ottawa River, and soon removed to the north and west, until, finally, they reached the point where they became permanently located. They were bounded on the north by the great Chippewa Nation, and on the south by the Menominees, but were frequently associated with the Pottawottamies, and their names thus frequently appear.

(6). The Pottawottamies were another tribe of this extreme group. Their home seemed to have been further east than any of the before-mentioned, yet they properly belong to the Northwest. They might, in common with nearly all of these groups of tribes, be called Lake Indians, for they were found on the shores of the Upper Lakes, and their names appear at first in one place and then in another on the maps. There were Pottowattamie villages on the straits in the vicinity of Detroit; also on the shores of Green Bay, mingled with Menominies and Foxes, and still others on the southeast shore of Lake Michigan, in the vicinity of the St. Joseph River. Their habitat was mainly in the southernmost part of Michigan, and their trails extended along the dividing ridges from Detroit as far west as Chicago even late in history. They were a wandering people. In appearance they were a dark and savage looking race, much darker

than either the Menominees or Winnebagoes. La Hontan, as early as 1790, speaks of taking nine Pottowattamies from Green Bay to be guides on his journey to the Long River, and the author of this paper has frequently met them as late as 1839 and 1840. Always restless and never abandoning their wild life, they were a good example of the Hunter Races, showing how difficult it is for them to leave their natural condition, and yet how tenaciously they preserve their tribal and ethnic peculiarities.

The tribes of the Northwest Territory were all of the Hunter class, none of them ever attaining to any settled agricultural state, none ever reaching even the condition of a nomadic people. Their habits and modes of life were those of savages. Their contact with the whites never brought improvement to them, and their contact with one another only served to increase the unsettled condition in which they ever lived. With no confederacy prevailing among them such as existed among the Iroquois, with no extensive agricultural pursuits such as prevailed among the tribes of the Gulf States, with not even the tribal unity which a common origin might bring, these wandering tribes just appear in history and then are gone.

The location which has been given is only a temporary one. The close of their own obscure and unsettled dominion, gives us only this fleeting picture. History soon sweeps it away and they are gone forever. The great Algonquin Race has been swept from off the earth. Their tribes no longer exist, their language has been forgotten, not a habitation remains in all the great region where they dwelt which belonged to them, and it is with difficulty that even the sites of their villages can be identified.

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REMARKABLE FINDS OF LEAF-SHAPED FLINT IMPLEMENTS IN OHIO.

BY M. C. READ,

Hudson, O.

The recent discovery, near Akron in Summit County, of a large number of leaf-shaped flint (or chert) "knives" on the borders of a marsh, has called attention to several other finds in other parts of the State. Thomas Kinney, of Portsmouth, Ohio, exhibited at the centennial 125 of these knives, a part of a find of several hundred discovered some years ago in that neighborhood. Mr. J. L. Kite, of Darnoscoville, Ohio, in a letter to Col. Whittlesey, of February 25, 1878, published in the Cleveland Herald, describes a find made some fifteen years ago in draining a swamp. "The deposit," he says, "filled a bushel basket. They were all placed on the broad end, enough set up to fill a certain circle, then another on top, and then another, until a perfect cone was formed." Col. Whittlesey, in a note refers to the discovery of another Indian find by J. C. Huntington, near Painesville, Lake County, O. He says, "Like those above described they formed a cache of common finished cutters ready for the Indian market. They were probably inserted in a wooden handle endwise by the thicker end and worked by one hand like those in California." This is the generally received idea in regard to these simple implements, and they are commonly labelled "flint knives." The Smithsonian Institute calls them simply

"leaf-shaped implements," from the peculiarity of their form and because this name does not signify any thing as to their use. I am inclined to the opinion that the name "flint knife" ought not to be applied to them, and that they are deposits of *unfinished* implements. Our examination of the excavations in Flint Ridge in Licking and other counties, indicates that the workers of these quarries broke up and selected out the workable fragments of the chert, and carried them away in this portable shape, and that the manufacturers of the flint implements were ordinarily located in other places. The abundance of flint blocks in places remote from these quarries shows that the manufacture of implements was carried on at the Indian settlements, and in such places flint cores are occasionally found from which pieces for knives and arrows have been flaked off. California miners of 1849 found these blocks of flint an article of barter between different tribes, each tribe making its own arrows, but none of them dependent upon their neighbors for the raw material. Now it is a remarkable fact that the large deposits of flint implements in Ohio are all of this leaf-shaped pattern, while scattered isolated specimens are almost never found. If they were known they ought to be found on the sites of the old settlements, and the broken fragments of them ought to be abundant. It is to be noticed that they are all of nearly a similar form, but of all sizes, the latter apparently being determined alone by the size of the block from which they were worked. None of them are notched, but from them, very readily, arrows and spear-heads could be made by a proper trimming and notching of the edges. And the inference is not an improbable one that they mark a second stage in the division of labor in the manufacture of flint implements. The first stage is the quarrying and selection of the workable chert, which in that form was carried to the village communities and sometimes bartered to the neighboring tribes, and sometimes acquired by capture. The second stage is the manufacture of these leaf-shaped implements, requiring special skill in splitting the chert, and considerable labor in chipping the pieces into this regular form, from which it could be readily shaped into arrows, spear-heads, knives, etc., according to the wants and tastes of the tribe or family. Accumulated stock of these unfinished tools would naturally be buried to avoid loss and the risk of capture. The forced migration of tribes, or the death of those who held the secret of the buried treasure, would leave such deposits undisturbed, to be uncovered by the modern plow or spade. The implements, ready for use, would be kept about the person or in the huts, and be carried away with the household stuff in case of forced migration, or else would constitute a part of the booty of the successful aggressor. The finished implements should be found every where, both in the perfect and broken form, scattered over the surface and buried with the dead, while we should look for the unfinished implements only at the place of their manufacture, or in such places of safe deposit as were available to the manufacturers. As bearing upon this question information is solicited in regard to the finding of these leaf-shaped implements in graves. If knives they ought to be frequently found in such places. If unfinished implements they should be rarely thus found, and only in the graves of the manufacturer.

GORGETS, OR WHAT?

BY R. S. ROBERTSON,
Fort Wayne, Ind.

There is a class of stone ornaments frequently found by collectors, about the use of which much difference of opinion exists. I refer to the perforated flat stones called "gorgets," "shuttles," "cord guages," and various other names which the fancy of the observer may have suggested. The fact is that no theory as to their use has been adopted, which is fully satisfactory to the student of archæology.

They are found in "surface finds," in sepulchral mounds, and in the graves of the modern Indian; and few localities exist, where the remains of prehistoric man have been found, but what have furnished some specimens of the kind, and few collections are without them.

A short time since, when exhibiting one to an old gentleman who was a clerk for a fur trader, while the Miamis still occupied the region about Fort Wayne, he assured me he had often seen them in use, and that they were worn on the left wrist to ward off the blow of the bowstring in hunting.

Let us examine and see whether this is not the best explanation of their use. Some call them gorgets, or breast-plates, and believe they were worn upon the breast or suspended from the neck. We know the prehistoric man loved display and ornaments for the person; but few of these stones are of an ornamental character, while many are very rude and plain, and suffer in comparison with those *known* to have been worn as ornaments.

Others again suppose them to have been used for making cords of uniform size. If they were used for such a purpose the holes must show signs of wear, which they rarely do; and would be of different sizes, and be more numerous, instead of being one or two holes to the stone.

Again: if used as shuttles, as some think, why two holes when one would serve the purpose.

The position in which they are found, when buried with the dead, gives much plausibility to the theory that they were used as ornaments for the breast, being frequently found upon the breast of the skeleton, or in such a position that they may have been regarded as having fallen from that place during the decay of the fleshy parts. Can we suppose—in favor of the theory that they are gorgets—that a great warrior would be buried with a rudely cut and perforated stone as his breast-plate, or to represent a breast-plate, symbolically? Or, on the theory that they are shuttles, can we suppose for an instant that the warrior would be buried, adorned with a weaver's shuttle—a badge of servitude—and female servitude at that?

Is it not more reasonable to believe that the deceased warrior, dressed in the full panoply of war, with his spear and bow and arrows beside him, should wear the protecting shield for his wrist which he had worn in life; and that when he was laid to rest, with his arms reverently crossed above his breast, that stone-guard would naturally be found upon the breast when the mouldering remains are disclosed to view in the future ages, when the spade reveals the ancient burial to the gaze and inspection of the wondering man of the new age?

Can any student of archæology give a better explanation, or throw any light upon their use?—

EDITORIAL NOTES.

RECENT EXPLORATIONS OF MOUNDS, AND THEIR LESSONS.

The students of Archæology and the lovers of the curious have been unusually active during the last year. One indication that our science is becoming popular, is that so many amateur exploring parties are organized, and so many societies have been established which make Archæology a specialty.

The field is so accessible, and the rewards are so numerous, that many who know little about the science readily enter into "original research." No doubt, as aids to science, these explorations cannot be overrated, and the result may be that a thorough acquaintance with broader and profounder studies, will become the inheritance of the rising generation.

We are happy to refer to the various discoveries as they have been made known to us, and as far as possible to show their value in a scientific point of view. The explorations have not been confined to any one locality. We learn of them on the Missouri River near Kansas City, at Warrensburg, Mo., at Nashville, Tenn., at Rockford, Ill., and at Davenport, Iowa, on the Grand River near Grand Rapids in Michigan, at Urbana, Ohio, at Cincinnati, O., and at Cambridge, Ill., and elsewhere. These explorations have been respectively under the care of "the Scientific Association" of Kansas City, of the members of the "Normal School" at Warrensburg, Mo., the members of the "American Association for the Advancement of Science," "the Rockford Scientific Society," "the Davenport Academy of Science," the members of "Kent Scientific Institute," "the Central Ohio Scientific Association," the "State Archæological Association of Ohio," "the Northern Ohio Historical Society," "the District Historical and Archæological Association of Ohio," "the Scientific Society at Cambridge, Ill., and at Carbondale, Ill., and others. All of these societies have been "among the tombs" but "clothed and in their right mind."

The results of these explorations among the mounds have been published mainly in local newspapers, though a few reports have been made to the scientific journals.

The American Naturalist, the Western Review of Science, the Popular Science Monthly, and The Magazine of History, have all contained papers concerning the Mound Builders.

Various reports and letters have also been sent to the ANTIQUARIAN and our arrangement for exchanges have been very effective in giving us the facts.

It should be said that the Government Surveys and the Smithsonian Institution are publishing elaborately many interesting facts and the laudable enterprise has just been undertaken by the latter institution to collect all that can be known as to the locality and

peculiarities of the earth works and other antiquities of our country. It is encouraging that so much attention is now paid to the subject which this magazine has taken as its specialty.

Accidental discoveries have also been made. The soapstone quarry near Providence, R. I., another in North Carolina, described by Prof. E. A. Barber, the bone heap containing the remains of "Sir Walter Raleigh's Lost Colony," nine skeletons found in a mound near Marietta, Ohio, and the remarkable cave in Kentucky, rivaling, it is said, the Mammoth Cave, are among the accidents of science.

Several communications have also been sent to us from various collectors, describing Relics, among which are letters from Dr. S. S. Haldeman, Hon. R. S. Robertson, Prof. M. C. Reid, M. C. Howells, Dr. H. H. Hill, L. M. Hosea, Charles M. Wallace, M. A. Gavitt, Isaac Smucker, Dr. Geo. Galloway, Wm. A. Clark and many others.

A large amount of material has in these various ways accumulated, and it may be said that there is no lack of interesting and valuable information for our readers, if the space can only be found for publishing it.

The demand for the Journal is evident, and yet the difficulty is before us to make it pay.

In reviewing the recent Explorations of Mounds, we have classified the finds under certain heads, first as to the form of the structures and secondly as to their contents.

I. STRUCTURES.

The Mounds may be divided into two classes, Earth Works and Stone Structures.

In reference to the Earth Works explored, it may be said that some interesting discoveries have been made confirmatory of our theory concerning the Serpent found at Fort Ancient.

Hon. C. C. Jones has published his description of the Bird Mound in Georgia. Recent investigation of Mounds in Wisconsin, by the editor, and other places show that these emblematic structures are quite numerous and wide spread.

A gentleman from Lebanon, Ohio, who has taken a surveying party to Fort Ancient and surveyed the work, is inclined to doubt the theory advanced that the walls were emblematic, but the Bird Mound in the great circle at Newark has been newly described, and the Circle and Square, at Circleville, have also found a new and reliable historian, so that emblematic structures in this section are proven. These accounts we hope to publish at a future time.

In reference to the Stone Structures the evidence is indisputable, and to these we shall confine ourselves at present. These structures we have divided into three classes :

1st. The large stone Cist containing several bodies and various relics.

This class of structures is the result of a new discovery. Several instances have been recently recorded, and to them we shall refer.

Prof. G. C. Broadhead has furnished us with the following facts in reference to one group of these, which were explored both by the Scientific Association of Kansas and by the State Academy of Science, of Kansas. Prof. Broadhead says:

"The mounds were on the Missouri Bluffs, in Clay and Platte Counties, Mo., near Kansas City. The bluffs were nearly 250 feet high, and the mounds were amid a large growth of trees through which fine views of the surrounding country could be obtained. There were four mounds, about 75 feet apart, and 30 feet in diameter and five feet high. One mound revealed a block of flint, a spear head, some charcoal and red ochre, but no bones. Another was built of rock covered with earth. A third revealed a concealed stone wall, 7 feet 9 inches square and 3 feet deep, and eight skulls supposed to belong to the Mound Builder type. A disconnected roof of limestone was first struck a short distance below the surface, and 18 inches below another roof appeared. The skulls or bones were found beneath the lower roof, and lying loosely among the stones and dirt. Three hundred feet distant were three mounds located in a triangle, about 45 feet apart, each built of stone regularly laid, 3 feet high and 7 feet 9 inches square—but covered with earth and the stones invisible until the earth was removed. In each human bones were discovered.

"A peculiarity about one of the mounds was that there was an entrance on the eastern side near the middle, about three feet wide. Other mounds, previously excavated, were also constructed on exactly the same plan, built of stone $7\frac{1}{2}$ to $8\frac{1}{2}$ feet square, with an entrance on the south side.

"These rock-formed sepulchres were built of limestone, perfectly square, and about three feet high. More than 20 such mounds have been noticed, revealing similar features."

The mounds discovered near Warrensburg, as described in the *Western Review of Science and Industry*, were also similar.

Mr. C. W. Stevenson says, "Every mound excavated so far discloses the stone box within, forming the true cist. The walls of this box are made of flat stones with no cement between, their dimensions being 9 feet in width, 11 feet in length and 6 in depth; the mound itself being about 50 feet in circumference at the base and about 10 feet in height. These graves are different in some respects from any before discovered.

2d. We would refer to the stone coffins recently discovered in such numbers near Nashville, Tenn. It should be said, however, that these are not new finds. They have been known for a long time. Mr. C. C. Jones has referred to them in his work on the *Antiquities of the Southern Indians*. Mr. Heywood has also referred to them and Dr. Charles Rau has described similar structures as occurring in great numbers in Illinois.

Those at Nashville as described by the newspapers and more correctly described by the authors referred to, appear to be built of stone slabs arranged in rectangular form, and having a vault or tomb just large enough for the body. They were generally occupied by single corpses and seemed to be merely stone coffins.

Among them there are smaller cists adjoining the larger, which were filled with bodies of children as if they had been buried after the modern fashion near their friends. There are many coffins in the ancient cemeteries of Illinois which resemble these at Nashville; they are arranged in rows, six or seven graves in a row, all of them constructed alike. Their sides, bottoms, tops and ends were all of stone slabs, and contained single bodies. Mr. Heywood has described others like them as existing in Tennessee, near the line of Georgia; and Bartram found similar structures in Georgia, as if the same race had migrated thither and there built their tombs. The only difference in their case was that one end was left open.

3d. A third class of stone cists has been recently discovered on the Ohio river. These consist of simple slabs arranged in the shape of a triangle slanting upon one another, and leaving a triangular vault in the interior. Large numbers of this kind are found in the vicinity of Portsmouth, Ohio, and they are said to be built universally on the top of the bluffs and knolls which line the Ohio river for long distances.

4th. A fourth kind of stone mound should be mentioned here, not so much as a result of recent investigation as to complete our classification. They are found among the Cumberland Mountains, and consist simply of a heap of loose stones which have been thrown over the burial place of a dead body. This was the mode of burial common among the Cherokees, and many of the structures are of comparatively modern origin.

Of these four different classes of stone structures it should be said that those found in Missouri are the most remarkable. They are peculiar not only in their shape and size, but in their contents, or in the form of burial which they indicate. Nowhere else that we know, has there been found tombs exactly like them. Occasionally vaults have been discovered in Ohio which were built up of wood, and in Oregon tombs have been observed of large size with a single body reclining in them, but the stone cists of Missouri contained in every case a number of bodies. They are peculiar too in the mode of burial. The bodies in the tombs near Kansas City were in a sitting posture, while near Warrensburg it is said that 17 bodies were discovered, all of them recumbent, eight in two rows and one between the rows. It would seem from the indications that a combination of the custom of inhumation, and of the rite of cremation prevailed, for it is stated that signs of fire were discovered in several of the tombs. It is not at all certain but that the custom of cremating captives, or servants, or relatives, with the distinguished men of a tribe, prevailed among the Mound Builders, and these finds are instances where the custom prevailed. The opening in the side is also worthy of observation and the occurrence of the mounds in a triangular group may be significant. It should be said that these mounds in Missouri, with their large stone chambers, and the opening at the side bear some resemblance to the dolmens and barrows which are so common in Europe. The difference between them is, however, perceptible. These contain no covered or protected passage way, as the dolmens do, nor are they cov-

ered with large slabs like those of England, nor are the tombs arranged in the same way.

They are interesting as forming a new type of burial structure and they may be significant of a higher culture than that which was common among the ordinary Mound Builders. The association of the more elaborately constructed tombs with more highly finished works of art, give strong indication of an advanced state of the people. The age of these tombs it has been maintained must have been several hundred years, as trees were on the tops of some of them which contained two and three hundred rings in the stump. Stone cists seem to have been confined to these particular localities. Whether a connection may be traced between all of these structures or not, so as to ascribe them all to one stock, with different tribal customs, or whether any ethnological conclusion can be reached, it is certain that they give many hints as to the condition of the Mound Builders, and are worthy of study.

II. CONTENTS.

The contents of the Mounds will next engage our attention. Usually the contents of a Mound are very unsatisfactory. They consist of arrow heads, of stone pipes, of red ochre or brown hematite, of galena, and of thin pieces of mica, of strips of cloth, of copper implements, and specimens of pottery and shells. Until recently archæologists have felt as if they were engaged in a useless search, and that these gave no indications of a civilization higher than that common among the wild Indian tribes. There have been to be sure hints in the number and location, and shape of the mounds, that a more extensive and advanced culture prevailed, but the contents have always disappointed us. Recently, however, certain tokens have been discovered which are more satisfactory. These contents, or tokens, we have for the sake of convenience classified into four types, or kinds: 1, Relics; 2, Symbolic Inscriptions; 3 Phonetic Inscriptions; 4, Beads.

1. Of the first class, Relics, we would say that a number of specimens have been found which are worthy of observation. For instance, in the stone cist opened at Warrensburg, Mo., a pottery vase or jar was found which had a silver band about it, indicating not only acquaintance with the precious metals, but a skill in working them unknown to savage tribes. The description of this vase is as follows:

"A pottery jar was found with a capacity of three quarts. This jar had a copper band about one inch wide around the neck, and another band, of silver, nearly two inches wide, beaten very thin, around the widest part at the middle. There were in the cist, arrow heads, pieces of lead, and several stone pipes, one of them six inches long, with bowl and stem all of one piece. There were also 17 bodies in this tomb, arranged in a row, and one between the rows."

This discovery of wrought silver is somewhat unusual, but we mention another find, still more valuable. Dr. Rau, in the last of the Smithsonian Reports, advanced sheets of which have been kindly

sent to us, has described a gold ornament made in imitation of the head of a wood-pecker, which was taken from a mound in Florida. It is both curious and ornate, and shows both skill and taste.

Hon. C. C. Jones has described a number of specimens of gold ornamentation as having been found among the mounds of Georgia.

There is, of course, a doubt as to the chronology of these deposits, as beaten gold or silver, iron or glass beads, might be regarded as a sign of intercourse with the whites. Yet the work is not so difficult but that it can be conceded as known to the Mound Builders. Though this working in gold is indeed an approximation to the skill and culture which prevailed among the Mexicans, yet it belongs to the lower forms of culture.

2. The inscribed symbolic, or emblematic figures are also worthy of mention. These, when discovered among the contents of mounds may indeed be regarded as valuable. There are many varieties of them. The number of them which have been brought to light is also great. They are to be distinguished from the tablets, or stones containing phonetic characters, and may more properly be classified with certain sculptured relics and idol forms. There is no doubt that the Mound Builders were acquainted with the art of sculpturing and engraving certain symbols, and the only question is how far they went in their symbolism. The symbols of the sun and moon, or that of the serpent, or dragon, or the picture of some idol, or animal, or some other figure, are found engraved on stones or shells, and in various forms. Solstitial or chronological signs have also been recognized and many other curious things are mentioned. The list of the stones and shells of this character which have been discovered it is impossible to give in full, but we will mention those with which we are familiar. Among these are the "Gest Stone," "The Berlin Tablet," and "The Mississippi Tablet." These have already been described in THE ANTIQUARIAN.

Besides these a number of gorgets, or inscribed shells, are in existence, among which we would mention one in the possession of Dr. Charles Edwards, of Kentucky, which we hope to describe in our next number; the one in the Academy of Science, of St. Louis, yet to be described, and several others in the Smithsonian Institution, and in the Museum of Natural History at New York. The Symbolism of all these have a certain significance which we cannot now explain. Some of them are suggestive of the religious notions which prevailed among the pre-historic people. Whether the sun-images and the symbol of the cross found on them has any significance we will not undertake to say. The historic origin of the latter symbol we have also no space to discuss. It is sufficient for us at the present to ascertain from the relics what the particular ideas of this people were. Nothing will convey their ideas so well as their symbols.

As an aid to the study of the religions of the Mound Builders these various inscribed stones are very suggestive. The system of animism so prevalent among the Red Indians indicated one stage of advancement, and the Sabæanism which prevailed among the Mound Builders indicated a far different stage. Whether a priesthood, and an imposing ritual, and human sacrifices, and a despotic

government, or an extensive confederacy, were concomitants of the latter stage is uncertain. This must be learned from further observation and study. We regard these inscribed stones and shells as important discoveries, especially in their bearing on the rise of civilization and the growth of religion.

In proof of a development of religion among the various races, and on the ground that the American Aborigines were entirely autochthonous, and all their inventions, organizations and religions were indigenous and natural, the symbolic inscriptions are very suggestive.

3. But the phonetic characters must receive our attention. It is now nearly forty years since the discussion began, and it seems no nearer conclusion than at the outset. It is needless for us to enumerate the number of stones found during that time concerning which claims have been set up that they contained inscribed characters. Nor can we describe the various processes by which certain of these claims have been proved to be fraudulent. Still the number of inscribed tablets containing phonetic characters are constantly accumulating, and the task of disproving the genuineness of them all, is becoming formidable.

We shall only mention those which are the most recent. These are the Rockford Tablet and the Inscribed Tablets in the possession of the Academy of Sciences at Davenport, and some others. A description of the Davenport Tablets has already been published. These tablets consist of three stones, one of smaller size containing three circles, with some mysterious symbols, like signs of the zodiac but no letters, another containing a hunting scene but no letters, and the third containing the picture of a sacrificial mound with a smoking altar at the top and a company of Mound Builders gathered in a circle about it. Above these are the sun, and the moon, and the stars shining upon the scene, and over all certain curved parallel lines which stretch like an arch of the horizon. In these parallels are the characters and the figures. The strangest thing about the tablet is that the word "TOWN" stands out in bold lines among the cabalistic letters, and among other marks the figure "8" in rude shape also appears. The picture of a face in the sun is also seen—a representation which better becomes, it may be said, a European or a Yankee than the ancient people of America, as it is of a conception of European origin, having been traced back to Scandinavia as its home.

We do not propose to discuss the question of the genuineness of these tablets. The only fact which we have to mention is that a recent find in Pennsylvania throws the subject into greater complication. A farmer near Philadelphia, in digging post holes, has discovered a nest of inscribed pebbles or stones. These pebbles, 40 in number, are the common smooth flat stones of the sea-coast. Every one, however, contains a little ring or circle, with an eye or dot in the center, and near the ring an alphabetic character. The characters resemble the Hebrew or the Samaritan, and in some respects also resemble some of the letters or figures on the Davenport tablet. These pebbles are now in the possession of Mr. William S. Vaux, and will be described more fully in our next number.

It should be said in reference to all these finds of letters or phonetic characters, that a certain degree of scepticism is perfectly reasonable. With our knowledge of the culture of the pre-historic inhabitants, it seems impossible for them to have attained to the use or the understanding of an alphabet. The only supposition which we can arrive at, if the tablets prove to be genuine, is that some migration of Europeans or of Asiatics must have brought them to this continent.

There are those who maintain that the continent was known and that a commerce was carried on with other continents long before the discovery by Columbus.

4. The discovery of Beads in a mound has proved on this account interesting and important. Dr. S. S. Haldeman has recently published a description of these. It appears that a number of "polychrome beads" have been found in various localities in the United States. Rev. L. G. Olmstead of Fort Edward, N. Y., has a bead of this kind which was found near Erie in Pennsylvania, and that gentleman believes it is a genuine Phœnician bead, brought to this country by the Northmen and traded to the Indians. Hon. C. C. Jones mentions that D. E. Laet found European beads in possession of the natives as early as 1540. Mr. Morlot, of Lausanne, gives an account of two specimens found near Stockholm, Sweden, and speaks also of a similar one, figured by Schoolcraft, as found at Beverly in Canada. Another, like it, has been found by the Wheeler expedition at Santa Barbara, Cal.

Mr. Morlot maintains that the Northmen received these beads from the Phœnicians.

There are several such beads in Europe. A large one was found with Samian cups and Roman buckles in England.

Mr. Franks of the British Museum and Dr. Haldeman, believe that the American specimens are Venitian beads of the 15th or 16th century. It is said that the trade in glass beads began among the North American Indians very early after the advent of the whites to these shores, so that this evidence is not satisfactory.

At the present stage of inquiry we should say that this subject is also unsettled, and we have to class all together among the unsolved problems of American Archæology.

We would call attention to these beads and these phonetic characters found among the contents of mounds, and would refer to these possible suppositions which might be adopted to account for them. 1. The developement theory. 2. Accidental resemblances. 3. A Pre-Columbian intercourse with Europeans. 4. The presence of the white man.

It is certainly worthy of remark that a kind of duplicate evidence is frequently presented by the contents of mounds. Everything indicates a primitive state of barbarism, and at the same time gives token of a higher state of art. This is discernible not only in the structures themselves but in the many articles discovered. The presence of silver and gold beaten into form, the finding of symbols resembling those known to history, the presence of glass beads in various parts of the continent, the frequent discovery of inscribed tablets, are all hints of an *intruded* civilization.

These tokens frequently go in pairs. Right in the midst of the wildest sign of a barbaric stage these unpromising indications of a higher culture will be found. Even on the same tablet the figure of a barbarian divinity in the form of a man will be seen seated astride of the sun, the sign of his supremacy and of his worship, but above him will be seen the phonetic character. With the hunting scene and the sacrifice of the Mound Builders will be seen solstitial or chronological signs; inscriptions of the sun and moon will be seen at times on gorgets, and then the serpent and the dragon. A spider will be engraved with a cross on his back, and pottery with the rudest ornaments will surprise us with some historic symbol.

The subject is an interesting one, but is far from the point of conclusion.

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PROCEEDINGS OF SOCIETIES.

The District Historical and Archæological Association of Ohio, met at Akron, April 4. The following papers were read: Modern Evidences of Pre-Historic Man, by Dr. Harvey Reed of West Salem. Evidences of the Pre-Historic occupation of Summit County, by J. M. Stevenson, Akron. Progress in Archæological Research during the last year, by J. R. McCreary, Akron. Ethnology of the Mound Builders, by Prof. M. C. Read, Hudson, O. The three discoveries of America: History, Ethnology, and Archæology, by Rev. S. D. Peet, Unionville, O. These papers will be published by P. P. Cherry of Wadsworth, O.

The State Archæological Association held its third annual session at Wooster, O., September 3d. Officers elected: Prof. M. C. Reid, President; Col. C. Whittlesey, Edward Orton, Dr. J. P. Henderson, Judge W. B. Sloane, Gen. R. Brinkerhoff, Dr. H. H. Hill, S. H. Wright, LL.D., Vice Presidents; Rev. S. D. Peet, General Secretary; Rev. J. T. Short, Recording Secretary; Dr. S. H. Townshend, Treasurer; J. H. Klippart, Librarian. Papers read: The Grave Creek Inscribed Stone, Prof. M. C. Read; Migration of the Indian Tribes of Ohio, C. C. Baldwin; The Delaware Indian Villages in Southeastern Ohio, Rev. S. D. Peet; Exploration of Mounds, Prof. E. B. Andrews; Description of a Fortification, J. G. Shears; Indian Graves on Paint Creek, C. M. Roberts; The Turanian Race, Rev. S. D. Peet; A Rock Shelter in Summit County, Prof. M. C. Read; A Human Effigy found in Morrow County, G. N. Vanfleck; The Direction of the Nahua Migration and the Evidence that the Mound Builders sprung from the Nahua Race, Rev. J. T. Short. Arrangements were made to have these papers published in the *ANTIQUARIAN*. The next meeting will be in Columbus.

ANTHROPOLOGICAL NEWS.

Edited by EDWIN A. BARBER, West Chester, Pa.; to whom all communications for this Department should be forwarded.

A PROFESSORSHIP of anthropology has been instituted at the University of Moscow.

THE Russian Expedition to Asia for the purpose of tracing the American migration has been postponed.

DR. SCHLIEMANN contemplates resuming his excavations in the Troad at an early day, so soon as he can obtain a body-guard of soldiers as a protection against robbers.

THE THIRD session of the *Congres International des Americanistes* will be held at Bruxelles, 1879. The corresponding secretary is Dr. Anatole Bamps, 31, Rue du Marteau, Bruxelles.

ONE evidence of the interest taken in Anthropology is given in the fact that out of 103 papers read at the last meeting of the American Association twenty-four were upon this subject.

OF THE fifty papers read before the second session of the *Congres International des Americanistes*, at Luxembourg, in September, 1877, eight were contributed by Archæologists in the United States.

ANCIENT Roman graves in Europe still produce valuable relics. Some of the members of the Anthropological Society of Munich, a few weeks ago, opened one of these, in which they discovered a number of interesting urns.

IN THE extensive collection of anthropological objects, exhibited at the Paris exhibition, six large models of ancient ruined buildings in Colorado and Oregon, forwarded by Prof. F. V. Hayden, of the United States Geological Survey, attract much attention.

A CIRCULAR has been issued by the ethnological museum of Leipzig, signed by Drs. Magnus and Pechuel Loesche, on the development of the sense of color in men. This contains inquiries in German and English, with a scale of colors and a blank schedule for replies.

MR. PAUL SCHUMACHER, of California, has recently been engaged in investigating the methods of manufacture of the steatite ollas and pipes which are abundant on the Pacific coast. The results of his investigations have been published in the annual report of the Peabody Museum.

MR. HENRY GILLMAN has just made an interesting discovery in Florida. In a mound he found an "urn, built up of one continuously coiled cylinder or rope of clay, and glazed inside, and partly outside." This is probably the first example of a vessel covered with a vitreous coating discovered east of the Rocky Mountains. It is undoubtedly analogous to the highly glazed Pueblo pottery from the ancient ruins of Arizona, etc., much of which was made in the same manner, that is, by spirally building up the sides.

DR. F. MOOK has just returned to Freiberg from Egypt, where he has for some time been engaged in making excavations. He has brought with him a very large collection of antiquities, including many skulls, a number of mummified animals, flint implements, personal ornaments, etc.

UNDER the direction of the Smithsonian Institution, Mr. F. A. Ober has been for several years engaged in exploring the West Indies for archæological remains. He will probably return to this country in the course of a few weeks, after having collected many objects of ethnological interest.

ON THE 5th of June, Baron von Bibra, archæologist, novelist and chemist, died at Nuremberg. Cammille van Dessel of Belgium, also, a promising young archæologist, died recently. He was the author of an archæological map of that country, which met with the approbation of scientific men in Europe.

ARRANGEMENTS are now being made for the publication of the most recent foreign anthropological news and correspondence in the ANTIQUARIAN. This will include philological, ethnological and archæological subjects, together with reports of discoveries, explorations, etc., and will form a feature of the Anthropological News Department.

PREHISTORIC copper implements are exceeding rarely among the remains of the Lenni Lenape or Delaware Indians. In the collection of Mr. Michael E. Newbold of Wrightsville, N. J., however, are a number of copper tubes of Indian workmanship, which were taken from an ancient grave in Burlington County of that State. They are not cylindrical, but somewhat tapering in form, and were made from nodules of native copper hammered thin, with the edge lapping. At the larger ends holes had been bored for the purpose of suspension.

WITHIN the town limits of Glasgow Junction, Kentucky, a wonderful cave has recently been discovered. This has been explored in one direction for the distance of nearly *twenty-three* miles, and a number of embalmed or mummified bodies have been discovered, similar to those found some years ago in the Mammoth and Salt Caves of the same state. The accounts of these discoveries are as yet meagre, but important results are looked for. The bodies had been placed in rude stone coffins, which presented every indication of great age.

THE forthcoming report of the Smithsonian Institution for 1877 will contain a paper by Prof. S. S. Haldeman, on a Polychrome Bead from Florida. The article describes what is known in archæology as the star pattern bead, and contains a number of references to rare works. A bead of the same pattern as that described by Prof. Haldeman was found a half a century ago in Erie County, Pa, which is supposed by its possessor, Pro. L. G. Olmstead of New York, to have been brought to America by the Northmen in the eleventh century. Professor Olmstead believes these beads to be of Egyptian origin.

It is gratifying to know that the Code of Symbols for archæological charts, proposed by a sub-commission of the International Congress of Anthropology and Prehistoric Archæology, held at Stockholm in 1874, consisting of the eminent anthropologists M. Mortillet and Chantre, is about to be adopted by the Smithsonian Institution, in its preparation of an exhaustive work on American Archæology; which, by the aid of numerous colored charts, will designate the location and character of all known antiquities of North America. This system of symbols, which has been approved by many of the best authorities, was published in the Smithsonian Report for 1875.

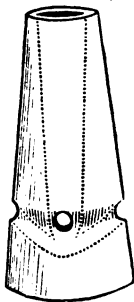
THE American Association for the Advancement of Science met at St. Louis, August 21st. Papers were read in the anthropological section by Messrs. Gillman, Morse, Putnam, Belt, Mason, Henderson, Bandelier and others. The Hon. L. H. Morgan and Mr. W. F. Morgan read papers on their recent explorations among the ruins of New Mexico and southwestern Colorado, some of which were visited by members of the Hayden Survey in 1875. The next meeting of the Association will be held at Saratoga in August, 1879. The British Association met in Dublin on the 14th of August. Prof. Huxley presided over the Anthropological department of the Biological section. His opening address was extemporaneous. A number of interesting papers were read by members. At the approaching French Association's meeting, Dr. Topinard will deliver a lecture on the notion of race in anthropology.

AMONG the extensive collection of stone and shell implements collected recently for the Smithsonian Institution by the Rev. Stephen Bowers, in California, were some diminutive, flat, circular shell beads which are undoubtedly the most delicate examples of aboriginal workmanship ever discovered. They are smaller than an ordinary pin's head, the central perforations being so minute as scarcely to admit of the passage of a needle. These specimens of native wampum were probably wrought from a species of *Olivella*. It is impossible to conceive how they could have been fashioned by the aid simply of stone tools. At first they were supposed to be natural crinoidal segments, but an examination of them beneath the microscope proved them to have been artificially worked, the delicate striæ appearing in parallel rows and not radiating from the center. They were found in a grave on San Miguel Island, associated with quantities of a large variety of bead cut from the *Olivella biplicata*.

MR. FRANK H. CUSHING, of the Smithsonian Institution, who was occupied about a year since in the exploration of an extensive bone-cave in Maryland (a report of which is now in the course of preparation) is at present engaged in the examination of an aboriginal soap-stone quarry in Virginia, somewhat analogous to the steatite quarry discovered recently in Rhode Island by Mr. H. N. Angell of Providence, which was alluded to in the American Naturalist for June, 1878. Mr. Cushing writes: "I have caused tons of earth to be removed from the surface of the soap-stone, sometimes to the depth of eight or ten feet, and this has revealed the fact that the steatite occurs in masses, often many yards across, and separated

from each other by wide irregular fissures. Wherever these masses reached to near the surface, the Indians worked off their summits, in some places to the depth of several feet, in others, where the rock proved defective, only a few inches. Still more interesting beginnings of pots and pot excavations have been discovered. I am at present engaged in photographing and remodelling the more important and interesting features of this aboriginal source of supply."

A COMPOUND calumet or council-pipe of unusual form was recently found in a grave on the alms-house property, in Blockley-field, West Philadelphia, associated with a necklace of perforated stone beads, about fifty in number, the central amulet being in the form of an eagle's head. The pipe is of a hard, light gray, almost white, steatite. It is cylindrical, or tapering, in form and nearly six inches in height. About two inches from the base, which is eight and three-quarters inches in circumference, extends a horizontal groove, in which have been pierced four equidistant stem-holes which extend obliquely downwards to the base of the bowl. The diameter of the latter at the opening is seven-eighths of an inch. The size of the specimen and the existence of four orifices for the insertion of stems, prove conclusively that it was not an ordinary pipe, but was in all probability smoked in some formal ceremony. When in use it was probably placed on the ground and enjoyed by four smokers. The inclination of the stem-holes is such, that were reeds two or three feet in length inserted, the mouth-pieces would be in proper positions for the use of those seated around it. This interesting, and probably unique, specimen was obtained by Mr. Wm. Klingbeil, but is now in the possession of Mr. W. S. Vaux, of Philadelphia.



—:O:—

AS SOON as our subscriptions will warrant it we want to enlarge THE ANTIQUARIAN.

A LARGE amount of material has been crowded out of this number for want of room.

PROF. ALEX. WINCHELL promises an article for the next number. Hon. L. H. Morgan also promises a contribution soon. A translation of an article on American Anthropology, by Prof. Virchow has also been promised.

THE reviews of the following books and periodicals will appear in the next number: Memorial Biographical Sketches by James Freeman Clarke; The Elements of Physical Geography, by Edwin J. Houston, A. M.; Address on Man's age in the World, by Jos. C. Southall, A. M., LL. D.; Southern Presbyterian Review; London Quarterly Review, &c.

THE INTERNATIONAL CONGRESS OF AMERICANISTS.

This is an institution eminently worthy the attention of American scholars. It was organized in 1875, and has now held two meetings; the first in Nancy, in the middle of July, 1875; the second in Luxembourg, in September, 1877, and the proceedings of these two sessions have been published by Maisonneure & Co., Paris, in four elegant octavo volumes, two volumes for each session.

It has been the intention of the Society to hold one of its early sessions in America, but efforts in that direction have failed for want of sufficient interest on the part of the American savans. At the Luxembourg * meeting the Marquis de Monclar presented a letter from James D. Williams, Governor of Indiana, and John Caven, Mayor of Indianapolis, requesting the Committee on Organization to designate the city of Indianapolis as the place of the third meeting.

Invitations were also received from Brussels and Lisbon. Brussels was chosen as the place for the third session, to be held in September, 1879, and the reason for not accepting the invitation from Indianapolis was the fact that as yet no representative from North America had taken part in person in the labors of the two meetings already held. The reason is a good and natural one, and it is to be hoped that the gentlemen appointed to represent this country at Brussels will find time to appear in person and see to it that proper steps are taken for inviting the Congress to hold its fourth session in the United States.

The labors of this society of savans being confined exclusively to American antiquities THE AMERICAN ANTIQUARIAN is the proper organ in which to review their proceedings. And the subject having been almost wholly neglected by the American press it is necessary to begin with the beginning.

As stated, the first session was held in Nancy, France, in July, 1875. The President was Baron De Dumash, and the Secretary M. Lucien Adam, both eminent antiquarians and men of letters. At this session the following papers were read and discussed, and both the papers and the discussions are given in full in the two volumes containing the *compte-rendu* of the first session :

- 1st Paper. Ante-Columbian Discovery of America, by M. Benedikt Grondal.
- 2d " Discovery of the New World, by M. E. Beauvois.
- 3d " The Phenicians in America, by M. Gaffarel.
- 4th " Buddhism in America, by M. Foucaux and M. De Rosny.
- 5th " Fusang, or the Chinese Discovery of America, by M. Lucien Adam.
- 6th " The Atlantis, by M. Chil Y. Naranjo.
- 7th " The Dighton Rock, by M. Gabriel Gravier.

*The invitation to the Congress to hold its third session in this country was first suggested by Prof. Anderson, and the suggestion was acted upon by the American Anthropological Association at its first meeting at the Centennial Exhibition in Philadelphia. This invitation was politely extended by that Association, and duly forwarded by the Secretary, Rev. S. D. Peet. Correspondence ensued, Indianapolis was fixed upon as the place, and then the invitation of the gentlemen mentioned was sent.—[EDITOR.]

- 8th Paper. A Dream of Christopher Columbus, by M. Castaing.
 9th " The Inscription of Grave Creek, by M. Levy Bing.
 10th " The America of the Portugese, by M. Luciano Cordeiro.
 11th " The Arctic and Antartic Regions, by M. Daa.
 12th " The Esquimaux, by M. R. P. Petitot.
 13th " The Indians of the United States, by M. De Semmalle.
 14th " Ancient Races of Peru, by M. John Campbell.
 15th " Columbian Skulls, by M. Paul Broca.
 16th " The Aborigines of Hayti, by M. Madiou.
 17th " The Tradition of the White Man, by M. Madier De Montjau.
 18th " An Iroquois Manuscript, by M. Leon De Rosny.
 19th " The Mound Builders, by M. Joly.
 20th " The Indians of the French Guiana, by M. Dupont.
 21st " The Caribbeans, by M. Ballet.
 22d " The Origin of the Peoples of America, by the Baron De Bretton.
 23d " The Indians of Peru, by M. Ber.
 24th " On the Magnay Plant (*Agave Americana*), by M. Godron.
 25th " The Guana of Peru, by M. Ridel.
 26th " The Cheyenne and Quichua Languages, by the Secretary, Lucien Adam.
 27th " The Dene-Dindjes, by R. P. Pelitot.
 28th " The Resemblance of Words, by M. Lucien Adam.
 29th " The Basque and the American Languages, by M. Julien Vinson.
 30th " The Deciphering of the Yucatan Languages, by M. Léon De Rosny.
 31st " Central America, by M. Blaise.
 32d " The Society of Quakers, by M. Maguin.
 33d " The Cree and the Chippeway, by M. Lucien Adam.
 34th " Anthropology of the Antilles, by M. Cornilliac.
 35th " Traditions of the Greenlanders, by MM. Rink and Valdemar Schmidt.
 36th " Newark Inscription, by M. Henry Harrisse.
 37th " The Very Ancient America, by M. Francis A. Allen.
 38th " Concerning the Asiatic Immigration, by R. P. Pelitot.
 39th " The Panoply of the Ancient Mexican Stirrups, by M. M. Eugenio Boban.
 40th " Archæological Analogies, by M. Morey.
 41st " Pre-Historic Canada, by M. Le Metayer-Masselin.
 42d " The Museum of St. Petersburg, by M. Schœbel.
 43d " The Ancient American Music, by M. Oscar Comettant.

There were also other papers and addresses, but this list will suffice to show that the labors of the Congress are of absorbing interest to every student of American Antiquities.

The following papers were read at the Luxembourg session and are published in the second report:

- 1st Paper. The Ancient Pueblos, by Mr. Edwin A. Barber.
 2d " The Mound Builders of America, by Mr. Robert S. Robertson.
 3d " The Chinese in California, by M. Emile Guimet.

- 4th Paper. Osteological Evidences furnished by the Ancient Mounds of Michigan, by Mr. Henry Gilman.
- 5th " The Very-Ancient America, or the Origin of the Primitive Civilization of the New World, by M. F. A. Allen.
- 6th " The Mound Builders, by Mr. Stephen D. Peet.
- 7th " To what race belong the Mound Builders, by M. F. Force.
- 8th " The origin of American Languages, Mythology and Civilization in the New World, by M. Hyde Clarke.
- 9th " The European Colonies of Markland and Escociland (the Dominion of Canada) in the Sixteenth Century and the Vestiges thereof which were to be found down to the sixteenth and seventeenth centuries, by M. E. Beauvois.
- 10th " Civil Legislation of the Mexicans under the Aztec Emperors and of the Peruvians, during the Epoch of the Incas compared, by M. J. F. Nodal.
- 11th " The Route of the Mississippi, by M. Gabriel Gravier.
- 12th " Chronological Marks of History of the Mound Builders, by M. Stronek.
- 13th " On the Migration of the Nahuas, by M. J. H. Becker.
- 14th " The Eries or Ka-kwaks and their Destruction by the Senecas, a tribe of the Five Nations, by the Abbot Schmidtt.
- 15th " Americus Vespuccius, by Dr. Schœtter.
- 16th " Conquest of the Ancient Chilians by the Peruvians in the time of the Incas, by M. H. Savary.
- 17th " The Tumu or Tuma Land (St. Thomas Land) by the Abbot Schmidtt.
- 18th " The Pre-Historic Synchronism, by M. A. Bamps.
- 19th " The Discovery of Brazil by the French, by M. P. Gaffarel.
- 20th " Brazilian Memoirs, by M. Burtis.
- 21st " The Voyage of Verazzano, by M. Desimoni.
- 22d " A table of the Ethnographical Distribution of Nations and Languages in Mexico, by M. Malte-Brun.
- 23d " The Atacamena Language of Peru and Chili, by M. Moore.
- 24th " American Languages compared with Ural-Altaic Languages in reference to their Grammar, by M. Forchhammer.
- 25th " Is the Quichua Language Aryan? a Critical Examination of the book of Don V. F. Lopez, entitled "The Aryan Races of Peru, by M. V. Henry.
- 26th " The Tablet Discovered by Rev. J. Gass, by M. Lucien Adam.
- 27th " The Rockford Stone, by M. J. D. Moody.
- 28th " A Critical Grammatical Comparison of sixteen American Languages, by M. Lucien Adam.
- 29th " The Principles of the Crise Language, by M. R. P. Remas.
- 30th " The Stone Age at the Philadelphia Exhibition, by M. Emile Guimet.

- 31st Paper. The National Library of Rio Janeiro, by M. Ferdinand Denis.
- 32d " Description of some American Antiquities preserved in the Netherland Royal Museum of Antiquities, in Leyden, by M. Leemans.
- 33d " A Chapter of American Archæology, by M. G. Schœbel.
- 34th " A Rock-retreat in Pennsylvania, by M. S. S. Haldemann.
- 35th " The Primitive Habitat of the Esquimaux, by M. H. Rink.
- 36th " The Age of Man in America proven by the Flint-stones, by M. Jean Engling.
- 37th " Antiquities of Greenland, by M. Valdemar Schmit.
- 38th " Phonetic Elements in the Figure Writing of the Ancient Mexicans, by the Abbot Jules Pipart.
- 39th " A Portrait of Christopher Columbus, by M. Rink.

Of this list we have noted the following as very valuable papers: those by Rev. S. D. Peet, and by Judge M. F. Force of this country; those by Mr. F. A. Allen and Mr. Hyde Clarke of England; those by Lucien Adam the distinguished French philologist, by MM. Garbiel Gravier, Rink, Gaffarel, and others.

There was a lively discussion on the appearance of the *cross* in pre-Columbian America. Some speakers insisted that this pointed to early Christian traditions. It was found that the Association had come to a very knotty, and at the same time very interesting subject, and therefore it was resolved, on motion of Count Marsy, that the appearance of the cross as a religious symbol in Ante-Columbian America should be made the subject of special attention at the third meeting of the Congress to be held at Brussels in 1879.

I have not the work at hand, but I believe Dr. Brinton explains the mythic serpent as originally referring to the lightning, and a chain lightning may well, by a nation in its cradle, have been looked upon as a serpent. And now comes the question whether the *cross* does not also refer to the chain lightning. In Norse mythology, Thor's hammer, the celebrated Mjolner, is certainly the lightning. The Germans still say *Kreuz-donnerwetter*, that is *Blitz-donnerwetter* when they swear; and the hammer, Mjolner being placed in the hands of Thor, the thunderer, there can, it seems, be no doubt that the sign of the cross symbolized the zig-zagging lightning. In Greek mythology the cross is also hinted at as the symbol of lightning, when Horace speaks of Zeus as hurling *arches* (*arces*) with his red right hand, (*rubente dextra*).

In American mythology the cross appears peculiarly connected with the god of the storm. Among the Toltecs there is a myth describing the mantle of the god of thunder, as being ornamented with a red cross, thus giving it the very color of lightning. Can there be any doubt that the cross in all mythologies is the symbol of the zig-zagging chain-lightning?

R. B. ANDERSON,*

Member of the Congres International des Americanistes.

* Prof. R. B. ANDERSON has charge of the Department of Pre-Columbian Discoveries. Correspondence on the subject should be addressed to him.—[EDITOR.]

BOOK REVIEWS.

ANCIENT SOCIETY, or Researches in the Lines of Human Progress from Savagery through Barbarism to Civilization, by Lewis H. Morgan, LL. D. New York: Henry Holt & Co., 1877.

An American Book on a world-wide subject. We maintain that in no country, is so favorable an opportunity offered for one to learn the primitive state of society and the ancient condition of mankind, as in this. While it is called the new continent it is really the old; that is, the old is new. This is true in a geological sense and it is as true in an ethnological and sociological point of view.

That condition of society, which in Europe was passing away in the times of Julius Cæsar and Tacitus, but was strikingly described by them, and which in Oriental Countries has been pictured by Homer and Herodotus, and by other writers of ancient history, is still found here in its native and unartificial simplicity. Mr. Morgan, the author of this work, has had abundant opportunity for studying this subject, as his two previous works on the league of the Iroquois, and the Consanguinity of the Races, give a wonderful amount of material from which to draw his conclusion, in this. The position which the author takes at the outset is one which is suggested by the study of the native races of America. The first thought which strikes intelligent readers is the resemblance of society here to that which existed in the Patriarchal Times, and which has been described by Niehbur and Momsen and Gladstone, and Curtius as the peculiarity of the earlier stages of society, both in Greece and Rome and among the various tribes and races of Eastern Europe and of Asia Minor. There is a stage of society in which the tribal state is the normal condition, and whenever it is left alone to its own organic growth this state is sure to exist. The fabric of human society is sufficiently organic to be analyzed and defined, Though it is neither animal or vegetable, yet it has laws of growth and organized structure as much as the human frame has. The author who adopts this position and then enters into the work of establishing an ethnic philosophy on a basis of facts is doing a great service to science. This Mr. Morgan has done. Taking the recognized fact that the tribal state is the universal condition of society in its first stages of natural growth, he analyzes still further and discovers the subdivision of Gens and Phratres, and from these he traces the process by which confederacies arise and even nations are formed. It is the true method of studying the rise of nations. Though the author does not undertake to carry this system further than the first stages where savagery passes into barbarism and from that into civilization, and still retains its organic condition, yet we believe that it could be traced into the historic and the enlightened nations, and much of the structure of society even in the most advanced could be traced back to this original germ. In fact it is now the method with which the best authors begin nearly every work on ancient history. It is plain that the ethnological view should be studied and explained by every historian. The philosophy of history must be based on ethnic philosophy. We may in America, to be sure, find the contrast between the historic and the

pre-historic race so great, that ethnology will only be studied with the latter and history in the former, but we may conclude that even the latest formed or the earliest state, as existing so side by side, may illustrate one the other. Mr. Morgan takes one position which is quite different from most writers who have studied the subject. Momsen and Niehbur, especially note that the family is not only the unit of society but the source of all government, and that the kingly office is an outgrowth of the paternal relation and so authority was one fundamental element. Mr. Morgan, however, takes the position that society in its natural state is democratic and office is elective. We believe that both are right. Up to a certain stage the kingly position and authoritative power is a gift of nature, but society always arrives at a point where this is changed and the elective privilege is vested in the people. Mr. Morgan's book is probably the best one on the subject ever written, and we wish that it could be studied more by the scholars and thinkers of our country.

A MIRACLE IN STONE, OR THE GREAT PYRAMID OF EGYPT, by JOSEPH A. SEISS D.D., Pastor of the Church of the Holy Communion, Philadelphia. Second edition. Philadelphia: Porter & Coates, 1878.

This is the last development of the Pyramid religion. The great Pyramid of Ghizeh is an inspired production: "The most important discovery made in our day and generation." This mysterious pillar, from the time of Alexander the Great, has been regarded as one of the seven wonders of the world. It now proves to be inspired from Heaven, and is about "to prove a key to the universe." This structure was supposed to have been built B. C. 2500. Described by Eratosthenes, B. C. 236; Diodorus Siculus, B. C. 60; opened by the Mohammedan Caliph Al Mamoum, A. D. 825; visited and described by Sir John Mandeville, A. D., 1350, and again described by Mr. John Greaves, A. D. 1637, and by Nath'l Davison, A. D. 1763; explored by Napoleon in A. D. 1799, and Colonel Howard Vyse and by him opened a second time in 1837 A. D.; was, in the year 1859, discovered to be a "superhuman structure and one whose architecture was directed by the spirit of the Almighty." The first man who made this remarkable discovery, and who thought "to recover a lost page in the world's history," was Mr. John Taylor, of the firm of Taylor & Hinsley, London, publishers. Having read the remarkable description given by Col. Howard Vyse, he, without having ever visited the Pyramid, claimed to find in the shape, arrangements, measures and various particulars of its structure, a grand cosmical epitome of the earth and the heavens, and gave it as his *theory and conviction* that the real architects were not Egyptians, but men of quite another faith and lineage, who were induced by an impulse from Heaven, to erect it as a witness of inspiration and as a memorial of truth. A few years after this Prof. J. Piazzi Smyth set forth his acquiescence in this startling position, and in 1864 published his work, "Our Inheritance in the Great Pyramid." In order to satisfy himself the last named gentleman spent three months, accompanied by his wife, in the vicinity of the Pyramid, and in 1874 published a second edition of his great work.

This book is a resume of Prof. Smyth's 3 volumes. The author, Dr. Seiss, condenses and abridges the larger work, but endorses all the

positions taken by both the authors before him, and also maintains that the cosmical religion has been at last discovered. The Pyramid contains within its depths the great truths of the universe, and furnishes us a key to the harmony between science and revelation. "Ethnic inspiration"! is the element in which mathematicians and scientists will find enough to call all their knowledge into play. Plato says that God perpetually geometrizes but a "basic outline of universology!" Where shall that be found? Lepsius says, "To the Pyramid of Cheops the first link of our whole monumental history is fastened, not for Egyptian but for universal history." Osburn says, "It bursts upon us at once in the flower of its highest perfection," but Prof. Smyth and Dr. Seiss say that "we can no more account for its appearance on ordinary principles than we can account for the being of Adam." The things which have been discovered in this "Miracle in Stone" surpass all human wisdom. According to these authors there are contained in its depths not only hints as to the spherical figure of the earth, but it has preserved to us the "certain type of the size of the terrestrial globe." The vertical height multiplied by 10 raised to the 9th power, tells the mean distance of the sun, 91,840,000 miles. "The evidences are clear that a cubit of 25,025 of our inches, and an inch which is the five hundredth millionth of the earth's polar diameter, were in the mind of the architects." This, when multiplied by $10^7 \times 4$, serves to tell the distance through space which the earth travels in each complete revolution on its axis. Thus we find the metrical system taught 4,000 years ago. "As these great old architects measured the earth so they also weighed it." "The gravity of the entire mass of the pyramid needs only to be multiplied by $10^5 \times 3$ to indicate the sum of the gravity of the entire mass of the globe." "The Pyramid or earth-commensurated pound is within a small fraction the same as our avordupois pound." The degrees of temperature within its depths "furnishes the basis for a complete nature-adjusted pyramid system of thermal measure." As a metrological monument it is quite wonderful. "It proves itself competent to determine on a natural and most scientific basis all measures of length, weight, capacity and heat." Situated also on "the pivotal balance-point of the entire land distribution over the face of the whole earth," it furnishes a "measure of the extent and proportional relations of the earth's continents and islands such as modern science even, has not yet furnished." The Greeks, in all their glory, could not find the cardinal points accurately, and Tycho Brahe's great observatory was faulty to five minutes of a degree, but, thousands of years before the discovery of the mariner's compass the builders of this pyramid, with no guide but the "naked stars" were able to orient their structure exactly. The "clock work of the universe" is also memorialized by it. The precession of the equinoxes "that sacred clock whose face is in the sky," is indicated by the passage into its depths. "The two diagonals of the great pyramid's base, taken together, measure just as many inches as the cycle of the universe has years." "The Tubular passage-ways prove to be time charts also." "This re-

markable pillar seems to indicate the time of the flood." "The grand gallery sublimely symbolizes our christian dispensation." "We have all the features of the Hebraic sabbatism built into it six hundred years before Moses, the same as that observed by the creator in the great work of creation. Not only this but the "midnight throne of the great creator" himself in the star Alcyone surrounded by the "sweet influences of the Pleiades" was pointed out in the sky by this wonderful structure of earth at the time of its erection."

"Whence this wisdom?" "Of all the enormous mounds of brick or stone which Egypt itself set up, there is not one to tell of aught but vaulting ambition and blundering imitation." Meanwhile this mighty structure stands immortal in its greatness, lifting its brow nearest to Heaven of all earthly works, asserting in every feature something more than human." "It stands the grand and indestructible monument of the true primeval man." Surely the Pyramid Religion is a wonderful faith.

ADAMITES AND PRE-ADAMITES. Alexander Winchell, LL.D. Syracuse: John T. Roberts, 1878. 52 pp.

This pamphlet is a popular discussion concerning the remote representatives of the human species, and their relation to the biblical Adam. The author distinctly takes the position that there were races existing before the time of Adam, and brings forward certain scientific facts which bear on the question. The first point which he makes is the scripture account of the dispersion. This he believes to include only the white race, but they everywhere found older people in possession of the land, a people who dwelt in caves, used stone implements, and clothed themselves in the skins of beasts. These were the pre-Adamites. Dravidians, the cave-dwelling Cyclopes, the Iberians, were all aborigines which preceded the Noachic races. The aborigines of America are Mongoloids, and belong to the same stock as the Chinese, Tartars, Lapps, Huns and Turks. The black race also, embracing Negroes, Hottentots, Papuans and Australians, were all different from the Noachites. The three families which constitute the Noachites were the Aryan, or Indo European, the Shemites and the Hamitic races, but were all of one stock, while the Negroes and the Mongoloids were of a different stock. The author also reviews the evidences given by the monuments. Egypt and Assyria present pictures of races which must have taken more than 6,000 years to have become so unlike and distinct in all ethnic and physical peculiarities. The proofs that the Negroes were not descended from Noah is given in the inferiority of the Negro race, its position on the continent of Africa, in the barbarous condition, and in the anatomical differences between them and the whites, although they may have descended originally from the same stock.

The scheme of the pre-historic times is that man originated in Africa, or on a continent now submerged, that he was originally black and clothed with hair. His descendants took up their abode in Africa, and after a time, by the law of progression, attained to the grade of a civilized people. At the introduction of history

this people became the Adamic race, Seth and Cain were perhaps natives of the race. The Adamic race poured itself from a center in Asia, east and west and north, and formed the Dravidian, the Mongolian and the Iberian, making the earliest known inhabitants of Europe and Asia, but everywhere coming in contact with an aboriginal people which had existed for many centuries and which were cotemporaneous with the hairy elephant, the two horned rhinoceros and the cave bear, and may possibly have been pre-glacial in their origin.

The Archæology of Europe is but a study of this aboriginal race. The kitchen-middens, Palafittes peat beds and gravel beds and cave dwellings only disclose the traces of their primitive life.

The different races bear zoologically such characteristics as would be employed to distinguish different species among the lower animals. Yet "a great gap exists between men and the lower animals, and no connection between man and the brutes has been found."

The time from Adam to Noah was far too short to explain the difference between the black and the white race, therefore the Adamites are the races described by scripture, while the pre-Adamites are the Negroes of the great African continent. Professor Winchell, Dr. McCausland and Dr. Taylor Lewis occupy substantially the same position in their attempts to reconcile science with scripture. All of them hold to a pre-Adamite race. The only difference being that Taylor Lewis maintained that the pre-Adamites were swept off by some one of the great periodical cataclysms, and a new race was created.

We hope that the author will not be burned at the stake for advocating this view, and yet we commend him to Dr. J. C. Southall for another method of reconciling science and revelation.

AMERICA NOT DISCOVERED BY COLUMBUS. *An Historical Sketch of the Discovery of America by the Norsemen in the Tenth Century*, by Rounds B. Anderson, A. M. Chicago: S. C. Griggs.

This little book of 120 pages is very readable and interesting, and written upon an interesting subject. No part of history has more charms for many readers than has the story of the Vikings, or Sea Kings, and no part of that story is more attractive to the American student than their wanderings to the shores of Greenland and so to the unknown shores of this continent. Whether Vineland of our own sea-coast was the spot which Bjorne Herjulfson or Leif Erikson reached, and where the German Tyrker plucked the grapes, and where Snorre Thorfinnson was born—who became the ancestor of the Great Thorwaldson, or not, we love to read about these hardy wanderers and their adventures.

Prof. Anderson has an enthusiasm on the subject and presents the facts in the book in so brief and so comprehensive a manner that one finds himself, at the close of the book, and really regrets that the author had not made it longer. It is like a tableaux which gives only a glimpse of a beautiful object, and then the curtain drops and the scene is closed.

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Loans secured by First Mortgage of Real Estate (property mortgaged originally appraised at \$5,633,221).....	1,901,200 49
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Loans secured by Policies in force (value of Policies, \$109,833).....	56,398 90
Interest and Rents Accrued.....	93,985 97
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Edited by Rev. STEPHEN D. PEET, Unionville, Ohio.

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Rev. S. D. PEET, Editor, Unionville, Ohio.

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THE AMERICAN ANTIQUARIAN.

VOL. I. No. 3.

JANUARY, 1879.

NATIVE AMERICAN ARCHITECTURE.

BY EDWIN A. BARBER.

THE elements requisite for architectural development are necessity and artistic instinct. No material advance, however, could have been made, beyond the first rude attempts of savage hut-building, except under certain favorable conditions. The earliest races of mankind, doubtless, sought shelter in caves or hollow trees, such as the Troglodytes of the valley of the Vezere,* in south-western France. The first step in the art of building was taken when nomadic man attempted a rude imitation of such natural shelters in the construction of temporary "wig-wams," or circular and conical apartments of bark and boughs of trees, and, presently, of the skins of animals, or whatever other material might have been at hand. The next advance in primitive architecture was the application of mud to the wooden structure for the purpose of rendering it more durable and of closing the fissures to exclude wind and rain. Beyond this, however, the *nomade* never progressed. The first habitations built centuries ago were not inferior to those used by pastoral tribes to-day.

Sedentary or stationary peoples, on the other hand, are capable of the highest degree of civilization, and consequently of unlimited improvement in the arts.

In the course of time, earth and stone were substituted for the more perishable wood. The stones were, at first, natural and irregular fragments which the elements had quarried from the strata of the rocks, and these were dry laid. The

*Vide Dr. Paul Broca's paper in the Smith. Rep. 1872, p. 326.

act of closing the crevices with pliable clay would doubtless suggest the idea of laying the stones in mortar, and thus stone houses came into use. Then the æsthetic elements of man's nature was developed and the artistic instinct was called into use. What had heretofore been designed with a view simply to utility was now embellished to gratify the eye.

The progress of architecture, from a low and primitive state of cave dwellings up to the higher stages of stone structures is one of the most interesting things brought out by the study of American Archæology. Not only do we discover on this continent the different varieties of structure such as the rude cave or the common rock shelter, the different kinds of wigwams, tepees and huts, the various earth-works and stone fortifications, the palafittes and lake dwellings, the adobe houses and the Pueblo dwelling places, the stone palaces, pyramids and teocalli—but we have also many illustrations of the state of society which was associated with these different forms of architecture. No country furnishes a more favorable field for the study of the subject. We propose in this paper to give a brief and comprehensive view of the different forms of Aboriginal Architecture.

Let us direct our attention for a few moments to a class of interesting structures, first brought to light in Switzerland about a quarter of a century ago. These constructions, known in Germany as *Pfahlbauten*, and in Italy as *Palafitta*, were aquatic abodes built out on the lakes, supported on piles driven into the mud of the bottoms. Similar structures are known to have existed in America, and certain tribes at the present day build their houses in like manner. The simplest form of such structures is, perhaps, that adopted by the Indians at the delta of the Orinoco River, in South America. The *Waraus* (or *Guaranos* of Humboldt) elevate two platforms, corresponding to floor and roof, between four trees, to the trunks of which they are attached. Near the northwestern coast of Venezuela, Humboldt noticed numerous Indian dwellings situated on a large lake. Such localities were probably chosen to escape from the attacks of mosquitoes and other insects. These latter buildings were supported on piles driven into the bed of the lake, in the absence of trees which might serve as natural supports.

Aerial huts, however, are constructed by some tribes above the land, as, for instance, are those of the Dyaks of Borneo, which set on posts, some of them being twenty feet above the ground. These are made accessible by notched poles, which are used in the place of ladders. M. Troyon*

* *Habitations Lacustres des Temps Anciens et Modernes. Lausanne, 1860.*

refers to an aquatic habitation on Lake Ontario, a description of which has been given by Cooper. He remarks: "*Chacun connaît la description que donne Cooper d'une construction lacustre sur le lac Ontario. Dumont d'Urville vit avec surprise une habitation toute pareille sur l'île Borneo, mais la question est de savoir si le récit de l'illustre romancier est dû à l'imagination, ou s'il a transporté sur les bords du lac Ontario des usages empruntés aux Malais on peut-être même à quelques Indiens de l'Amérique.*"

In ancient Mexico, however, true lacustrine constructions existed at the time of the Conquest. We are informed by the old historians that about the year 1325, the city of Mexico, or, as it was called by its builders, *Tenochtitlan*, was founded among the marshes of the Mexican Valley. Piles were sunk into the earth, and temporary structures of rushes or reeds were erected above the water, which covered the greater portion of the country. Such were the primitive pile-dwellings of the Aztecs. The latter existed almost solely by fishing, and hunting the wild fowl. As they improved in their architecture, adobe and stone buildings superseded the frail thatched huts. Mr. Prescott observes: "From the accounts of the ancient capital, one is reminded of those aquatic cities in the Old World, the positions of which have been selected from similar motives of economy and defense. . . . The example of the metropolis was soon followed by the other towns in the vicinity. Instead of resting their foundations on *terra firma*, they were seen advancing far into the lake."* There were five lakes in the great valley, of which Tezcucó was the largest. On the borders of this were situated Mexico and several others of the principal towns. During the conquest of Mexico, Cortez and his followers noticed these characteristic constructions. "They saw as they passed along," says Prescott, "several large towns resting on piles, and reaching far into the water,—a kind of architecture which found great favor with the Aztecs, being in imitation of that of their metropolis. The busy population obtained a good subsistence from the manufacture of salt, which they extracted from the waters of the great lake."

The striking similarity between these pile-dwellings of the ancient Mexicans and the *palafittes* of ancient Switzerland "only serve," as Dr. Wilson expresses it, "to show how constantly the constructive instincts of man, when guided by the first impulses of intellectual expression, revert to closely assimilating forms."†

* Tezcucó.

† Pre-Historic Man, Vol. II, p. 81. Cambridge, 1862.

It is possible that future investigation will reveal the fact that the borders of many of the large lakes of the United States were once studded with aquatic abodes, and the remains of pile-dwellings may yet be discovered to have been as numerous as those of the Swiss lakes, in the vast section to the north of the Aztec domains.

Dr. Ferdinand Keller* quotes from Mr. A. Georing's "*Illustrated Travels*," Vol. II, pp. 19-21, in reference to the Guajiros Indians of the Gulf of Maracaibo, in South America: "The houses, with low, sloping roofs, were like so many little cock-lofts perched on high over the shallow waters, and they were connected with each other by means of bridges, made of narrow planks, the split stems of palm trees. . . . We were invited to enter one of the tents. To do this, we had to perform a feat worthy of the monkeys in the neighboring woods, for we had to climb an upright pole by means of notches cut into the sides.

"Each house, or cock-loft, consisted of two parts, the pent-roof shelter being partitioned off in the middle; the front apartment served the purpose of entrance-hall and kitchen, the rear apartment as a reception and dwelling chamber, and I was not a little surprised to observe how clean it was kept. The floor was formed of split stems of trees, set close together and covered with mats. Weapons and utensils were placed in order in the corners. . . .

"Villages composed of pile-dwellings, such as that I have here attempted to describe, . . . are numerous along the shores of the great 'Lake,' or Gulf of Maracaibo. The positions chosen for their erection are near the mouths of the rivers and in shallow waters. The piles on which they rest are driven deep into the oozy bottom, and so firmly do they hold that there is no shakiness of the loftily-perched dwelling perceptible, even when crowded with people. The advantages of dwelling in houses so situated, in a hot climate like this, are very great. The inmates received the full benefit of the refreshing breezes, whether from land or sea, which temper so agreeably the sweltering heats of tropical America; and as they pursue their indoor avocations, they are soothed by the continual murmur of the waters beneath. It is like living aboard ship, with the advantage of solid footing, and facilities of going ashore whenever one wishes. Pile-dwellings, more or less similar to those of Maracaibo, are found in other parts of South America; generally, I believe, about the mouths of the Orinoco and the Amazons. They are the invention not exactly of savages, but of tribes

* *The Lake Dwellings of Switzerland*. Second edition. Translated by John Edward Lee, F.S.A., F.G.S. London, 1878. Appendix E, p. 678, Vol. I.

of men in a very primitive stage of culture. Such, probably, were the people who lived in the pre-historic lake dwellings of Switzerland."

The architecture of the Mound-Builders will next engage our attention. As the only monuments which remain of the *Mound-Builders'* labors are their tumuli of earth, which in the majority of cases possessed a religious or symbolic significance, when not designed for the interment of the dead, it is reasonable to suppose that their habitations were but temporary structures which have long since perished. As we advance southward, however, we find that the dwelling-places of the people were prepared with greater care, and were intended to be permanent, while less labor and time were expended in the preparation of the resting-places for the departed. Such indications point to a considerable advancement in civilization and the arts. The abodes of the ancient Pueblos of the south-west were constructed of adobe or of stone. The walls were solidly built and cemented with an adhesive mortar, though we find on them no indications of exterior embellishment, no elaborate sculptures or ornamental reliefs. It is not until we reach Mexico and Central America that we find the culmination of aboriginal art on the Western Continent. Here we are filled with admiration and surprise at the existence of a megalithic architecture, which compares favorably with many of the famous ruined edifices of the older and more highly civilized Orient. The characteristic form is the pyramidal, somewhat analogous to that of the gigantic piles of Egypt, yet, while the *teocalli* of ancient Mexico were almost invariably surmounted by temples, the pyramids of the Nile were as invariably without such accessories. An excellent idea of the former remains may be obtained by an examination of the fourth volume of Lord Kingsborough's magnificent work, (*Antiquities of Mexico*), in which also will be seen representations of another style of architecture, the long, low temples whose exteriors were marvels of elaborate sculpture.

In the truncated earth-works of the Mound-Builders, we discover the architectural germ which was developed to such a degree of perfection by the ancient Mexicans, in their elaborate *teocallis* of stone.

The prevailing style of architecture of the existing Pueblo tribes of New Mexico and Arizona presents a connecting link between the ruins of the north and the structures of the Nahuatl races of the south. In the former we find many features peculiar to both. There is the rude *irregular horizontal* style of masonry, presenting the first stages of pyramidal structure, which culminated in the great Mexican

teocallis. We therefore have a distinct series of developments in North American architecture. First, the mounds of the Mississippi Valley; second, the stone structures of the Rio Grand del Norte, the Rio San Juan and the Rio Colorado; third, the Pueblos of New Mexico and Arizona, and finally the more highly finished edifices of Mexico and Central America. The same design is apparent throughout. "The distinctive character of the Mound-Builders' structures, and also the traditions which have been preserved, would indicate that this people were expelled from the Mississippi Valley by a fierce and barbarous race, and that they found refuge in the more genial climate of Central America, where they developed those germs of civilization, originally planted in their northern homes, into a perfection which has elicited the admiration of every modern explorer."*

The third form of architecture peculiar to the pre-historic races of America, is that which was constructed from stone.

Let us examine more carefully some of the older, and necessarily more crude, remains which lie to the northward, in that portion of the United States comprised in Colorado, Utah, New Mexico and Arizona. In the valley drained by the Rio San Juan, a very interesting class of ruins has recently been brought to light by the Government expeditions. These stone structures may be classed as *Valley Remains* and *Cliff Houses*. The former are generally large rectangular buildings, which, as a rule, assume an approximately accurate orientation. The most interesting of these is a group of ruins situated in the extreme southwestern corner of Colorado, at a place where formerly existed a spring of water, from which fact they have received the name of *Aztec Springs*. Mr. W. H. Holmes observes of them: "The whole group covers an area of about four hundred and eighty thousand square feet, and has an average depth of from three to four feet. This would give in the vicinity of one million five hundred thousand solid feet of stone-work. The stone used is chiefly of the fossiliferous limestone that outcrops along the base of the Mesa Verde a mile or more away, and its transportation to this place has doubtless been a great work for a people so totally without facilities.

"The upper house is rectangular, measures eighty by one hundred feet, and is built with the cardinal points to within five degrees. The pile is from twelve to fifteen feet in height, and its massiveness suggests an original height at least twice as great. . . . The walls seem to have been double, with a space of seven feet between; a number of cross-walls at

*Foster's Pre-Historic Races of the U. S., p. 351.

regular intervals indicate that this space has been divided into apartments, as seen in the plan.

"The walls are twenty-six inches thick, and are built of roughly-dressed stones, which were probably laid in mortar, as in other cases.

"The lower house is two hundred feet in length by one hundred and eighty in width, and its walls vary fifteen degrees from the cardinal points." *

In the Montezuma Canon of Southeastern Utah, the ruins of another interesting valley structure may be seen. This is perched on a little island plateau, about forty feet in height, which rises abruptly from the valley. As will be

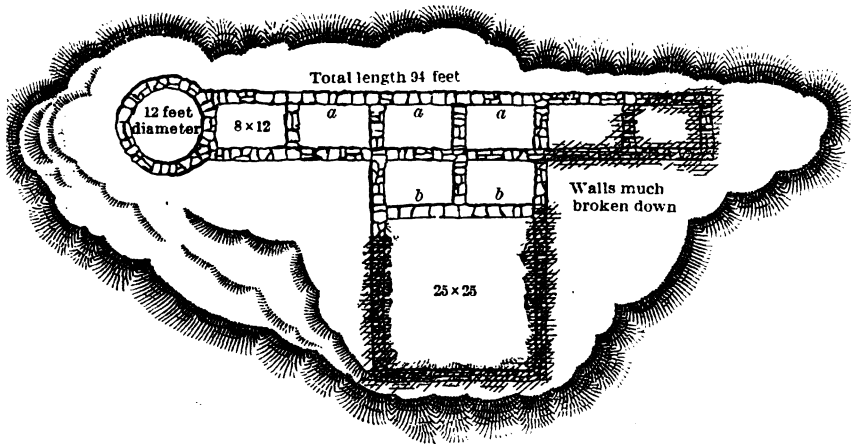


Fig. 1.

seen in the ground-plan, the structure is generally rectangular, terminated at the left-hand wing by a circular apartment, which, in all probability was used as a watch-tower.

The *cliff-houses* of the ancient Pueblos were built at every altitude in the strata of the canons, and were undoubtedly intended as resorts of refuge for the persecuted people. A strong foe was steadily pressing them to the southward, and their route is marked by these sequestered habitations for great distances. The general character of these constructions may be understood by a reference to the two following engravings, which, with those preceding, have been taken from Prof. H. V. Hayden's Report. The first (Fig. 2) represents a watch-tower perched high up among the crags of the canon of the Rio McElmo, a short distance below the ruins of the Aztec Springs. Watch-towers were usually circular

* See Bulletin of the Geol. and Geog. Survey of the Territories, Vol. II, No. 1, Washington, 876, p. 19.

in shape, and were situated in locations commanding extensive views. They were doubtless occupied by sentries to guard against the attacks of enemies. The McElmo tower



Fig. 2.

is probably twelve feet in diameter, and the walls still stand to a height of about ten feet. The abodes of the ancient Pueblos were far more numerous than the watch-towers, and were almost invariably rectangular. Occasionally, however, the walls of some were curved, and in many instances the small caves of the limestone formations were converted into dwelling-places by walling up the openings. The smaller apartments were undoubtedly utilized as store-houses or magazines, since in their condition the people were constantly fearing a surprise from their enemies. One of the finest examples of cliff-houses is a two-storied edifice discovered in the canon of the Rio Mancos, in Southern Colorado, at an altitude of eight hundred feet above the bed of the stream. Mr. W. H. Jackson thus describes the structure:



Fig. 3. Cliff-House.

“The house stood upon a narrow ledge, which formed the floor, and was overhung by the rocks of the cliff. The depth of this ledge was about ten feet, by twenty in length, and the vertical space between the ledge and overhanging rock some fifteen feet. It was perched up in its little crevice like a swallow’s nest, and consisted of two stories, with a total height of about twelve feet. . . . Most peculiar was the dressing of the walls of the upper and lower front rooms; both were plastered with a thin layer of some firm cement, of about an eighth of an inch in thickness, and colored a deep maroon-red, with a dingy-white band, eight inches in breadth, running around the floor, sides and ceiling. In some places it had peeled away, exposing a smoothly-dressed surface of rock.”

For a further description of these ruins, the reader is referred to the Bulletin of the U. S. Geol. Survey, Vol. II, No. 1; to the Report of the Photographer for 1874, and to the August and September numbers of the American Naturalist for the year 1878.

Mr. H. M. Westropp* has divided the architecture of Italy into four styles, as follows:

* Hand-Book of Archæology; London, 1878; pp. 7-8.

I. The *Cyclopean*, of unhewn stones, rudely piled up and filled in with smaller stones.

II. The *Polygonal*, in which the sides of the blocks are fitted to each other.

III. The *Irregular Horizontal*, in which the stones are laid in strata without being dressed to a uniform size.

IV. The *Regular Horizontal*, formed of evenly-dressed and uniform blocks.

The style of the walls of the ancient Pueblo dwellings corresponds to the *Irregular Horizontal*, sometimes called Etruscan or Hellenic. The pieces of rock have usually been laid, without dressing, in horizontal strata, though occasionally buildings are found whose stones have been carefully faced with the tools. "Each separate style of masonry* is the result or necessary consequence of that progress and natural development in the art of building in any country, and not peculiar to any particular race; each style marking the stage of development in the art. As in sculpture, there are three different styles: the first, rigid, hard and rude, which was the first beginning of art; the second, when there was more regard to proportion and beauty; and lastly, the third or perfect style. So in masonry, the first or primitive style was but a piling up of rough blocks, which might be suggested to any people; the second style may be considered an improvement of the former; the third style a still greater improvement, when the masonry was brought to its most perfect state. Specimens of polygonal and horizontal masonry, with a similar sequence of styles, are found in Peru and in the central parts of America (Missouri), where they cannot be said to be of either Pelasgic or Etruscan origin. According to Mr. Ferguson, examples occur in Peru of every intermediate gradation between the polygonal walls of the house of Manco Capac and the regular horizontal masonry of the Tambos, precisely corresponding with the gradual progress of art in Latium, or any European country where the Cyclopean or Pelasgic style of building has been found."

In building their walls, the ancient Pueblos employed the plummet. In describing some of the ruined communal houses of the celebrated Chaco canon, Mr. W. H. Jackson remarks: "There were at least two doors or windows in every apartment, with an average size of twenty-six by forty-two inches. These were plumb and square, of equal width top and bottom, and in forming them the builders seem to have given their greatest care and attention."

* Hand-Book of Archaeology; London, 1878; pp. 7-8.

The invention of the arch has been ascribed to various nations of antiquity by different writers; but as the knowledge of such architectural principles would necessitate a high degree of development in structural art, we are naturally inclined to examine the remains of ancient Egypt for the earliest indications of its existence. "It is shown by Sir J. G. Wilkinson that the arch existed in brick in the reign of Amenoph I., as early as B. C. 1540; and in stone in the time of the second Psamaticus, B. C. 600. This evidence is derived from the ascertained date of arches now actually existing; but the paintings at Beni-Hassan afford ground for the conclusion that vaulted buildings were constructed in Egypt as early as the reign of Osirtasen I., who is presumed to have been cotemporary with Joseph. Indeed, although the evidence from facts does not ascend beyond this, the evidence from analogy and probability can be carried back to about B. C. 2020 (Wilkinson's *Anc. Egyptians*, II., 116; III., 316). Sir J. G. Wilkinson suggests the probability that the arch owed its invention to the small quantity of wood in Egypt, and the consequent expense of roofing with timber."*

The key-stone arch seems to have been unknown in America previous to the fifteenth century. Clavigero states that an arch of this sort was seen among the Tezcucan ruins, but his assertion is not supported by satisfactory proof. "The relics that have been examined in modern times, moreover, seem to show conclusively that key-stone arches were unknown in America before the advent of the Europeans, though arches made by overlapping stones were often cut in such a manner as to resemble them.† A spurious arch, similar to those of the Mexicans thus alluded to by Mr. Bancroft, is mentioned by Sir J. G. Wilkinson in his *Ancient Egyptians*, Vol. II, p. 321. This is a tomb-shaped building at Thebes, which is supposed to date back to about 1500 B. C.

In the description of an interesting Incarial structure, called *Mamacuna*, Mr. E. G. Squier observes: "The principal and remarkable feature is an arch, so rare in American ruins. Indeed, in all my explorations in Central and South America, it is the only proper arch I ever found. It is perfect and well turned, is of adobes of large size, and surmounts a passage running into the solid bulk of the edifice, which may be considered of two stories. . . . There is no key-stone, but it is filled in with the same material as the adobes. . . .

* Kitto's *Cyclopedia of Biblical Literature*, N. Y. 1860, Vol. I, p. 303.

† Bancroft: *Native Races of the Pacific States*, Vol. II, p. 555.

This arch is by no means the only example to be found on the coast; for it is said that others also exist among the aboriginal monuments in the vicinity of Tumbes, in Northern Peru." *

In an allusion to the Pueblo dwellings of New Mexico, Dr. E. Bessels, of the Smithsonian Institution, observes: "In the present mode of constructing the dwellings, there is, however, one detail worthy of attention and further investigation. We mean the arched building,† as there are but two tribes inhabiting this continent whose architectural skill proved efficient enough for this purpose, namely, the Peruvians and the Eskimos. As the dome-like structure is found among this race (besides the people just mentioned), it would be worth while to investigate whether this style of architecture is original, or adopted from the Spaniards, and whether it is of rare occurrence, or to be met with frequently." ‡

While, however, it requires a considerable degree of skill for the construction of a true arch, the capability of producing the curve or hemisphere would not necessarily imply any great degree of progression in the art of building. The Kaffirs of Southern Africa who erect dome-shaped huts, seem to be, according to some writers, wholly incapable of tracing a straight line. A child, in laying out small stones to represent a house, will intuitively approximate the circle, whilst it seems impossible for him to form a rectilinear figure. The Utah Indians of Colorado, among other savage tribes, construct hemispherical sweat-houses, on which they expend more care and labor than on the *wick-e-ups* in which they dwell.

Major J. W. Powell,§ in describing an underground apartment of the Moqui Indians of Arizona, says: "This kiva, as it is called in their own tongue, is called '*estufa*' by the Spaniards, and is spoken of by writers in English as the 'sweat-house.' It is, in fact, an under-ground compartment, chiefly intended for religious ceremonies, but also used as a place of social resort. A deep pit is excavated in the shaly rock and covered with long logs, over which are placed long reeds; these, in turn, covered with earth, heaped in a mound above. A hole, or hatchway, is left, and the entrance to the kiva is by a ladder down the hatchway. The walls are plastered, little niches, or quadrangular recesses, being left, in

* *Incidents of Travel and Exploration in the Land of the Incas*. New York, 1877.

† "Descending to the chamber by a ladder, it was found probably twenty-five or thirty feet in diameter, arched above, and about twenty feet high."—*Report of the Chief of Engineers for 1876*, p. 1067.

‡ Bulletin of the U. S. Geol. and Geog. Survey of the Territories, Vol. II, No. 1, p. 61.

§ The Ancient Province of Tusayan, Scribner's Monthly, Dec. 1875, p. 205.

which are kept the paraphernalia of their religious ceremonies. At the foot of the wall, there is a step, or bench, which is used as a seat. When the people assemble in the kiva, a little fire is built immediately under the hatchway, which forms a place of escape for the smoke. Here the elders assemble for council, and here their chief religious ceremonies are performed, for the people are remarkable for their piety."

The writer makes no allusion to the vaulted form of the roof, and it is probable that the majority, if not all, of these subterranean apartments possess plain ceilings.

While on a visit to the seven towns of Moqui, in connection with the United States Geological survey, in 1875, I examined a number of these under-ground rooms, but found none which possessed arched roofs. The vaulted form of that one referred to by Dr. Bessels, is rare. The word "estufa" was applied to them by the Spaniards, because they described them as resembling *stoves*. Hence they called them *estufas* or stove-shaped compartments, which would seem to point to their cubical form. The vaulted form, therefore, among the Pueblo or house-building tribes, is rare, but whether introduced by the Spaniards or not, we have not at present sufficient means of determining.

As "a true arch," therefore, is formed of a series of wedge-like stones or of bricks, supporting each other, and all bound firmly together by the pressure of the center one upon them, which latter is therefore distinguished by the name of key-stone,"* it would appear that the real arch was unknown to the people of the Western Continent." "The true principles of the arch were not understood by the ancient Egyptians, Greeks or Etruscans, or by the American builders."†

* Incidents of Travel in Yucatan, New York, 1843, Vol. I, p. 430, by J. L. Stephens.

† Incidents of Travel in Yucatan, New York, 1843, Vol. I, p. 430, by J. L. Stephens.

PHONETIC ELEMENTS IN AMERICAN LANGUAGES.

BY R. J. FARQUHARSON,
OF DAVENPORT, IOWA.

It is curious to note the great unanimity of the current authorities to the denial of the existence of a phonetic element in the American languages; some being loth to admit the slightest evidence of any progress beyond the symbolic stage of writing; others again going so far as to deny the possibility of the existence of any such evidence. This category of authorities includes the names of Humboldt, Brantz Mayer, Schoolcraft, Prescott, Hubert Bancroft, and perhaps others. A notable exception, however, occurs in the name of Rafinesque; and though he, like Brasseur de Bourbourg, and the more modern Le Plungeon, may be said to have eaten of "the insane root," yet he was undoubtedly in the right track, believed firmly in the existence of a phonetic element in the languages of America, and pointed out the proper mode of interpretation through the medium of languages now spoken; which, by the way, would be impossible, if there were no phonetic sound-elements in the written language.

In his second letter to Champolion, in the "Graphic Systems of America, and the Glyphs of Otolum of Palenque in Central America," dated Philadelphia, February, 1832, he says: "It might not be impossible to decypher some of these manuscripts written on mell paper: since they are written in languages yet spoken, and the writing was understood in Central America as late as two hundred years ago."

(It may not be uninteresting here to note, *en passant*, that in all probability, it was from the cursive characters into which Rafinesque resolved these "Glyphs of Otolum," and which were first published in his *Atlantic Journal* for 1832, that the characters engraved on the "brass" tablets unearthed by the Mormons at Kinderhook, Illinois, in 1843, had their origin.) It would indeed appear that the plan of rendering the American hieroglyphs by means of a spoken language, as was done in Egypt, is as feasible now (1878) as it was when suggested by Rafinesque (1832). From a memoir by Mr. V. A. Malte-Brun, read at the last meeting of the Americanistes at Luxembourg, on Mexican Ethnography, it appears, that of thirteen (13) aboriginal languages, or rather groups or families of languages, once spoken in Mexico and Central America, the following are now spoken, with more or less purity or admixture of foreign words:

1. Mexican, Nahuatl and Aztec. 2. Maya, Quiche and Huastec. 3. Mixtec and Zapotec. 4. Tarascan. 5. Opata

and Pima. 6. Apache. 7. Seri. 8. Cochimi. 9. Mixte and Mije. 10. Pama.

The first person to place the phonetic elements of the Mexican language in a clear and scientific light was Aubin of Paris. The task has been successfully continued by the Abbe Jules Pipart of France (*Elements Phonétiques dans les Ecritures Figuratives des Anciens Mexicains.*" *Compte-Rendu de la Second Session du Congrès des Americanistes.* Luxembourg, 1877, June 2d, p. 346), and by Don Manuel Orozco, y Berra of the City of Mexico.

The latter learned Mexican antiquarian, in an article on the so-called "Sacrificial Stone," lately published (*Annales del Museo Nacional de Mexico*, 1877. Tom. 1, Entrega 1^a, p. 29), in explaining the groups of figures sculptured around the outer margin of that stone, gives such a clear and decisive account of the passage of the Mexican tongue through the different phases of development, up to the evolution of the phonetic element, that, to the student of American philology no excuse is perhaps needed for the following rather long quotation:

"In the Mexican hieroglyphic paintings, combat, battle or war is expressed in different modes.

"The natural *mimetic* representation of this fact would be to paint a multitude of armed men fighting, the dead and wounded stretched on the ground, with destruction by fire and other damages, like our actual pictures of battle of the present day: of this kind, which may be called primitive, are some of the hieroglyphic paintings which accompany the work of Father Duran. (*Historia de las Indias de Nueva Espana*, written in 1580; published in Mexico, in 1867, by Don Jose Fernando Ramirez.)

"Such a proceeding being too embarrassing for writing, recourse is had to the expedient of abbreviation, by concentrating in one figure alone each of the contending parties. By this means, in two of the codices (the Vatican and the Paris, or Tollerin-Remensis), in many places battle is denoted by two armed figures fighting; and in order to introduce as much detail as possible, each warrior displays his appropriate costume, arms and ornaments, and also the name of the nation to which these correspond, or the gentile name of the tribe, or a personal name if it is a duel or private combat—representation nevertheless *mimetic*, characters properly *kiri-ologic*.

"In the first plate of the Mendoza codex are to be seen an armed warrior, brandishing his weapons, and before him another warrior unarmed and bound, the latter doubling forward his body, in token of submission; behind the second

person is seen the name of the city, which is represented with its *teocalli* burning, and with its roof dismantled. This last sign, which on the Mendoza codex accompanies all the conquered places, is the determinative of conquest, of cities taken by assault, because it was the custom of the Mexicans, at the taking of a city by force of arms, to burn and destroy the chapels or temples of the principal *teocalli*. In this case the painting passes from the *mimetic* to the allegorical state, because, not only is fighting or a battle signified, but added to that is the idea of the submission, the destruction and the sacking of a hostile city.

"Again, in the Mendoza codex, in the picture, showing the conquests of the kings, is always seen a king in front of a sign composed of a shield (*chimalli*) displayed above a bundle of arrows (*mitl*); and following this may be noted the symbols of the subjugated cities; the reading is obvious, such a king conquered such and such nations."

"The arrows and the shield have the phonetic equivalent of *yaoyotl* (war or battle), or, by uniting the sounds which the objects signify, we say *mitl-chimalli*, which metaphorically in the Mexican language means war, battle. (Molina's Dictionary.) The sign passes from the allegorical to the ideographic, and again to the phonetic."

Q. E. D.

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INDIAN FARMERS.

About 1799, Don Jose Cortez wrote of the Moquinos (a tribe of Indians in Arizona), that they were "the most industrious of the many Indian nations that inhabit and have been discovered in that portion of America. They till the earth with great care, and apply to all their fields the manures proper for each crop. . . . They are attentive to their kitchen gardens, and have all the varieties of fruit-bearing trees it has been in their power to procure. The peach tree yields abundantly. The coarse clothing worn by them they make in their looms. . . . The town is governed by a *cacique*, and for the defense of it the inhabitants make common cause. The people are of a lighter complexion than other Indians. . . . The women dress in a woven tunic without sleeves, and in a black, white, or colored shawl, formed like a mantilla. The tunic is confined by *asash*, that is usually of many tints. . . . The aged women wear the hair divided into two braids, and the young in a knot over each ear."

INSCRIBED STONE OF GRAVE CREEK MOUND.

*Report of M. C. Reid, of Hudson, Ohio, on the Inscribed Stone of the Grave Creek Mound, read at the meeting of the State Archaeological Society, held at Wooster, Ohio, September 25, 1878.**



In studying this supposed relic of the past we are to search for all available evidence to enable us to answer the following questions:

1st: Is the inscription on the stone alphabetical? For if not, the question when and by whom it was made is of no practical importance.

2nd: If alphabetical does it represent any of the known alphabets of the world?

3rd: Is it an authentic find? That was, is it found in the mound in such a position, that we can safely say it is as old as the mound, and was buried in it at the time of its construction.

4th: If alphabetical and authentic what does its burial and character indicate?

Under the latter head the following facts should be considered. It is not a costly or elaborate piece of work. It could easily be made by any one with or without the use of iron. It is a thin piece of sandstone, unpolished, of the form accident has given it, the edges only wrought, with an inscription which required only a few minutes to make. If alphabetical and deposited in the tomb of one of the mound builders, it indicates a knowledge of the use of letters so common that the art of writing was not confined to a special class. Its simplicity indicates that it was written hastily for some special purpose and if intentionally deposited in the tomb that it was written as a charm, or to designate the name or rank of the

*NOTE.—At the meeting of the State Society, held at Cincinnati in 1877, Dr. A. A. E. Taylor, of Wooster University, Rev. J. P. McLean, of Hamilton, O., and the writer of this report, were appointed a special committee to report upon the evidence of the authenticity of the Grave Creek Mound Inscribed Stone. For various reasons the other members of the committee were not able to take part in the preparation of this report, and are not to be held responsible for its statements or conclusions.

In collecting and discovering the evidence now attainable, the writer undertook to divest himself of all pre-conceived opinions, to investigate the matter *de novo*, and with judicial impartiality. The general conclusions reached were approved by the Society and by Dr. Taylor, the only other member of the committee present at the meeting.

person buried, or to render him some imagined assistance. If a writing, it is a piece of *carnal* ordinary work to be used and thrown away as an unimportant note that has been read, or written at the time of burial to be buried with the dead. In either case it indicates the common use of writing and makes it appear very strange that in all the mounds carefully examined no other similar inscriptions have been found.

A thin, water-worn piece of sandstone without ornament, could hardly be chosen for such an inscription unless for a temporary use, or for such a purpose as controls the soldier in the field, when he cuts the name of his deceased comrade upon a piece of board, scratches it upon a stone, or writes it upon a piece of paper to be enclosed in a bottle and buries it with the body. And if the art of writing was known to the builders of this mound and an attempt was made to perpetuate the memory of those in whose honor it was created by the use of this *art*, it is very strange that no more than five minutes time would be devoted to this highest mode of honoring him in connection with a work which would require the whole labor of a large community for many months. In a permanent structure, designed to last through ages, and requiring immense labor for its execution we would expect no insignificant, *ex tempore* inscription like this, unless accidentally buried. If obtained from others and held by those who knew not the art of writing, and treasured by them as a mysterious charm, then it might be designedly buried in the tomb of the owner and in such a mound as this.

But is it alphabetical? Schoolcraft, who had no doubt as to its alphabetical character, after correspondence with noted antiquarians, finds in the inscription four characters corresponding to the ancient Greek; four Etruscan; five Runic; six ancient Gallic; seven old Erse; ten Phœnician; fourteen old British; sixteen Celtiberic, with some resemblance to the Hebrew, but is inclined to regard the whole inscription as Celtiberic. Now in the old alphabets of the world which took their form before the local invention of paper, when writing was not writing but engraving, the ingenuity of man was substantially exhausted in the formation of letters by a combination of straight lines, so that now it is very difficult, if not wholly impossible to engrave on a stone twenty arbitrary characters of which a large number will not be simply reproductions of ancient letters. I have asked several different persons, who had never seen the inscriptions in Cesnola's Cyprus, to write down for me twenty or more arbitrary characters not resembling any figures or alphabetical characters known to them, and composed of straight lines or combinations of straight lines. In every case an inscription

was produced presenting as many indications of being alphabetical as the one under discussion, and on comparing them with Cesnolas' inscriptions alone—of one, five would be pronounced Cypriotic and three Phœnician; of another, eleven Cypriotic and two Phœnician; of another, eight Cypriotic and three Phœnician; and of the other, ten Cypriotic and eleven Phœnician; while the tendency to reproduce familiar forms was shown in the fact that in every case one or more of the characters would, in inscriptions, be pronounced English.

In this inscription a similar tendency is apparent. The familiar forms are a cross, found twice; an X; a diamond; an hour-glass; the capital D with a line which makes it represent a bow and arrow; and the figure 4, the latter exactly representing our printed figure. This much is evident, that the inscription is not necessarily alphabetic. It is just such a medley of characters as any one would produce who undertook to invent an inscription to puzzle the curious. It might be objected that in such an attempt, care would be taken not to produce any modern forms. But these fabricated inscriptions were made by those who were especially cautioned to make their characters unlike any letter or figure with which they were familiar, and were limited to the use of straight lines and combinations of straight lines. None of them in a first attempt were able to observe the condition imposed, and they were not permitted to improve upon their first attempt.

For purposes of comparison these fabricated inscriptions are here copied with that of the Grave Creek Mound:



No. 1. By a teacher and law student.

No. 2. By a school girl.

No. 3. By a druggist.

No. 4. By a college professor.

No. 5. The Grave Creek Inscription.

These all present equal evidences of being alphabetical and

have similar resemblances to the alphabets of the old world. In the fabricated inscriptions may be recognized characters found in the following alphabets: the Punic, Pelasgian, Oscan, Gallic, Phœnician, Etruscan, old Greek, Syriac, Servian, Ethiopic, Coptic, Gothic, Cypriotie, Old British and Runic, and the second, third and fourth are as good ancient inscriptions, so far as inspection would disclose, as the Grave Creek Inscription, so that I am compelled to *conclude* that there is nothing in the form of the characters of the latter which require us to decide that they are old, that they are alphabetical, or if alphabetical that they are derived from any known alphabet.*

This by no means warrants the conclusion that the stone is not antique; or if antique, that the inscription is not alphabetical. There are two ways in which its antiquity has been undertaken to be proved.

First, from the general appearance of the stone and of the lines of the inscription, if critically examined by competent persons at the time of its first production. But very great skill is required and very careful examination to warrant definite conclusions from opinions thus formed. Men of sound judgment and great experience in this country and in Europe have been deceived by impositions of this kind. Col. Wharton is evidently a conscientious observer, and I will not question his knowledge as to the difference between an ancient and modern inscription. But, unfortunately, he did not give this stone a critical examination at the time it was found, and it is evident from his statement that no one then deemed it of any great importance, and the question of its authenticity was not raised. He says, in a letter in the Cherry pamphlet, April 7, 1876: "The fact is, few of us then regarded the stone as of much importance, and none of us appreciated its value as a link in the chain of evidence respecting the people and the condition of those who built the mound." Again, "as to the stone having been a genuine relic there can be no more question than of the light of the sun: *no one who saw it doubted it.*" He also makes substantially the same statement in a letter to me of January 4th, 1878.

The failure to appreciate its great importance, if genuine, is also shown by the fact that five years after the opening of

*During the discussion of the report, with these inscriptions copied upon the black board, C. C. Baldwin, Esq. of Cleveland, called the attention of the society to the evidence furnished by the inscriptions that they were not alphabetical. That the form of the characters was in many instances evidently suggested by the form of those immediately preceding, which would almost inevitably be the case if the writer was attempting to make a series of new and arbitrary characters, and which would be impossible if known and significant characters were used in a genuine inscription. The reader will readily observe how frequently in each of the inscriptions characters are evidently derived or suggested by those immediately preceding.

the mound, Schoolcraft "found this curious relic lying unprotected among broken implements of stone, pieces of antique pottery, and other like articles," in the chamber erected for exhibition of the articles found in the mound. (See transactions of American Ethnological Society, Vol. I, p. 387.)

Within a reasonable time after its discovery, it is evident it was not subjected to a critical examination by any one for the purpose of determining its genuineness. It could not well be when the question of its genuineness was not raised. This is greatly to be regretted. For this is the very first question the Archæologist should ask when he lights upon a new and unusual find: "Is it unquestionably genuine?" "Is it quite certain that no one is attempting to impose upon me?" Here doubt, suspicion, skepticism, are Christian virtues. And if it is precisely the missing link for which he has long been searching, and especially if he has been generally known to be seeking it, he should use the utmost caution, and be satisfied with nothing short of certainty.

The Grave Creek Stone was not so scrutinized, questioned and cross-questioned at the time of its discovery, as to justify the "proferit" of it now as evidence, or to warrant very positive conclusions from its appearance when first discovered.

The second mode of proving its authenticity is by the testimony of witnesses as to the position in which it was originally found. If found in the undisturbed earth in the center of the mound it is unquestionably as old as the mound. And now let the witnesses be heard upon this part of the case. Col. Wharton does not claim to know, except from inference, where the stone was found. He says (letter to Mr. Cherry): "I simply know it came out with the debris through the drift, as there was no dirt taken from the shaft that day, nor could it have been wheeled down the steep side of the mound." (Letter of Aug. 31st, 1877). Again, in a letter to Mr. Cherry, April 7th, 1876, he says: "In the forenoon they struck the center of the vault and brought out decayed wood, stones, rings, beads, mica and bones—one skull nearly perfect, found in Morton's work. Among this dirt was brought out the inscribed stone and picked up by one of us from the loose dirt. In a letter to me of Feb. 27th, 1878, he says: "The earth from the drift was brought out in barrows and dumped in a long line." * * "I think the stone was brought out of the drift from the fallen contents of the shaft. In this I may *possibly* be mistaken; when I first saw it, it was being handed to Dr. Guns with some of the earth still clinging to it." The *facts* to which the Colonel testifies are these: the manner of opening the mound, which he describes minutely and of

which more will be said hereafter, the wheeling out in barrows of the materials excavated from the mound, and the finding of this stone in the loose earth which had been wheeled out by the drift; and from these facts he very naturally infers that the stone was brought out with the earth from the center of the mound. But his conclusions are not testimony. The *facts* to which he testifies are that dirt was wheeled out of the mound, and that the stone was picked up by some one in such a place that all inferred that it came out with the dirt. This is all there is of his testimony on this particular subject.

Mr. P. B. Catlett is the next witness, and a very important one. He says (letter to Mr. Cherry, May 6th, 1876): "I was the man who found the stone. In answer to the question, 'Was there a matrix, or, in other words, an impression of the stone where it lay?' I would say that the engraved stone was *found in the inside of a stone arch that was found in the middle of the mound.* * * * As to any one placing the inscribed stone there, it could not have been done." This testimony is very pointed and positive, and seems to imply that Mr. Catlett found the stone in the center of the mound. But I have learned as a lawyer that there are very few men who as witnesses will sharply discriminate between what they *know* and what they *infer* from what they know; and the province of a cross-examination of an honest witness—and I have no doubt that all these witnesses are honest—is to induce them to make this discrimination. Such a cross-examination by letter is not always satisfactory, but with a frank, candid witness, such as Mr. Catlett evidently is, it is ordinarily sufficient to induce the witness to make the discrimination sought. In answer to specific questions, Mr. Catlett in a letter to me of Jan. 9th, 1878, says: "I am the one that found it *first*. It was not in its original bed when first found, it was taken out of the stone arch in a wheelbarrow and emptied outside." This is in full accord with Col. Wharton's testimony, and establishes the fact that the stone was found in the loose dirt which had been wheeled out from the mound and dumped from the barrow. If it had previously been seen *in* the mound by any one, it is evident that it was thrown aside as of no value, or was sent out with the dirt for a purpose, to be found by some other party. These two witnesses are pointedly contradicted by Mr. A. B. Tomlinson, of Folsom, California. He says (letter to Mr. Cherry of Aug. 3d, 1876): "This stone was found in the upper vault, which was about thirty feet perpendicularly above the bottom of the lower vault. Each vault had been supported by timbers or rude stones. On the floor and under the confused mass of rock

were found all the relics of each vault. I was engaged in removing the rocks of the upper vault and at the same time gathering the relics. The relics lay confusedly, commencing near the east wall, and promiscuously inclined to the center of the vault. Being thus engaged and near the side of the vault the stone spoken of was found, *I removed it with my own hands, as I supposed, from its ancient bed.*"

As it was evidently impossible to reconcile this testimony with that of Messrs. Wharton and Catlett, I sent special interrogations of Mr. Tomlinson asking categorical answers. His reply, under date of Feb. 15th, 1878, gives a general and more definite history of the opening of the mound and of the finding of the inscribed stone as he now remembers the facts. I quote from this letter all that is pertinent to this investigation. He says: "I will give a brief statement of the events from recollection, with care not to state anything but what is clear to my recollection. It, however, occurred in the summer of 1838. Some twelve or fifteen years previous my father and uncle sunk a *rod* in the center of the concave that was on the top of the mound in search of a vault, believing it was caused by the filling up of a cavity below. * * * In 1838 we commenced a horizontal tunnel at the base of the mound. On arriving at the center we found that the top of the vault had fallen to the floor, which was earth, and was firm, smooth, level and dry. On the floor and under a mass of loose unhewn rock were found the relics. My employment was to remove the rocks, and carefully to gather the relics, which consisted of two human skeletons; one was surrounded with 690 ivory beads and an ivory ornament about six inches long. Finding the cavity of this vault not to be sufficient to have caused the depression on the top of the mound, the vault being eight by twelve feet square and seven feet deep, we then drilled a hole upward from the center of the vault in search of another, which we found about thirty-four feet above the floor of the vault. We then ascended the mound to this distance of thirty-four feet, *where we commenced another tunnel*, and drove horizontal for the center, where we found the upper vault had fallen in as described of the lower; the floor being as described of the lower also, except its unevenness caused by the earth giving way by the fall of the lower vault (its dimensions about the same also), which was thirty-four feet below. On this floor and under the rocks as described in the lower vault was found the relics, consisting of one human skeleton which had been surrounded with copper bracelets, plates of mica beads, etc. The skeleton had been placed upright against the wall of the vault, and had fallen toward the center, which had settled

about eighteen or twenty inches, leaving the floor in a concave form, and, as I suppose, had drawn the skeleton about that distance from its original position. In the direction of the feet of the skeleton and near the wall, as my employment was to search the floor, *after having removed a rock from its ancient bed*, I was carefully removing the dirt, which was mostly of decayed timber, when I uncovered the inscribed stone. *The inscription being up, it took my attention.* I examined it; found it to be the work of the ancients; I then placed it with the other relics, and when prepared for public exhibition it was with the other relics. Having made the above statement at this remote period of my life (my age being near seventy), I have confined myself to facts according to recollection, and believing also from the facts above stated that the inscribed stone was placed in the vault with and at the time the skeleton was, for *I know that I was not deceived in the antiquity of the bed of the rock nor of the dust under which the inscribed stone lay.*"*

Were there no other testimony in the case, we should be warranted in the conclusion that the mound was opened by a drift in the natural surface to the center, a hole drilled upward thirty-four feet, disclosing a second vault at that elevation, to which a second horizontal drift was carried, and that this inscribed stone was found by Mr. Tomlinson on the floor of the upper vault, covered with the dirt of decayed timber and beneath an unwrought stone imbedded in the floor of the vault. As I called Mr. Tomlinson's attention in my letter especially to the well or shaft said to have been sunk from the top of the mound, his silence in regard to it, while undertaking to give a full account of the opening, warrants the inference that he intends to say no such well was sunk. But it is certain that he is mistaken in this and in many other particulars.

Schoolcraft, who visited the mound in 1843 and gathered the facts in regard to the opening, learned that the original plan was to "open a gallery from its northern base to its center to be intersected at its terminus by a perpendicular shaft from the center of the depression in the plane of its apex." That the drift at the base was first opened and a shaft ten feet in diameter sunk from the top, and, at the time

* Attention is called to a few statements of this letter which clearly indicate an indistinctness of memory in regard to the actual occurrences:

1st. At the end of a drift, carried to the center of the mound, and of a height (described by all) barely sufficient to enable a man to stand erect, a hole could not be drilled thirty-four feet upward without the special preparation of rods made in sections and fastened by screws or some similar devices. The preparation of such rods is improbable and if made would be remembered and noted by some of the witnesses.

2d. If the inscribed stone was found in the bed of a large stone imbedded in the bottom of the vault, it would not also be covered with the accumulated dust of the vault.

3d. It is exceedingly improbable that any one in the dimly lighted vault would detect the inscription upon such a stone as this before picking it up.

of his visit, he found a "circular hollow column of brick rising from the chamber where the lower vault was situated, and occupying the span of the shaft." (See his report in Vol. I, Transactions of American Ethnological Society.) Col. Wharton is equally positive in this particular. In his letter to Mr. Cherry, April 7th, 1876, he says: "They commenced by an entry on the north side and subsequently by a shaft from the top." In his letter of Aug. 31st, 1877, to Mr. Cherry, he says: "A drift was run from the north side of the mound high enough for the tallest man to walk after it was arched with brick, say eight feet high; this was run to the center, where they came to decayed wood which was evidently put up in a square box or enclosure, a shaft was sunk from the top till they struck the same evidences. Then Dr. Clemens was sent for to see it opened." * * * Dr. Clemens and Tomlinson, perhaps others, occasionally went into the drift, but did not stay long as they were in the way of the workmen. As the lower grave was taken out the dirt gradually fell, until at last the whole came down, opening a communication *between the shaft and drift.*"

After the reception of Mr. Tomlinson's letter I again wrote to Col. Wharton, making among others the specific inquiry whether more than one drift or gallery was carried into the mound. In his answer of February 27th, 1878, he says: "There was but one drift entry and that directly, or within a few degrees from the north side."

Now it is very certain that Mr. Tomlinson is mistaken and that he did not find the inscribed stone at the end of a drift which never existed.

The condition of the mound when visited by Schoolcraft, the facts as he then learned them, the testimony of Col. Wharton and Mr. Catlett are in complete accord and conclusively prove, that a drift was carried into the mound at the base from the north side disclosing a vault with various relics at the center: that a shaft was sunk from the top of the mound to about the top of the upper vault; that the center of the mound caved, carrying into the end of the drift the upper vault and its contents; that the materials and contents of both vaults were carried out at the drift; that the inscribed stone was not discovered in the mound, but in the dirt wheeled out from the drift after it was dumped from the barrow; or if found in the mound by any one, or seen in the mound, it was sent out with the dirt without remark, for the purpose apparently of having it discovered by some other person.

The thorough contradiction of Mr. Tomlinson by all the other witnesses must be explained by each one in his own

way. To me it implies no impeachment of Mr. Tomlinson's honesty—legends grow, they are never invented. Neighborhood gossip is almost always the result of unconscious accretions and alterations of a story as it passes from mouth to mouth. Ordinarily the man who has repeated an anecdote of his boyhood for forty years would not recognize the story if he should find it written down as it actually occurred. The more interest we take in an event long past, the oftener we have repeated it and conned it over the more likely are we to substitute our own mental processes and modern thoughts in place of the actual memory of events. There is nothing more uncertain than human testimony in regard to events long past, and the greatest care and the highest degree of skill is required in properly sifting and weighing it. Applying ordinary rules applicable to conflicting testimony we must find that the first point when the existence of this inscribed stone is disclosed to us by the evidence is the time when it was picked up by Mr. Catlett from the earth which had been wheeled out of the mound, so that the evidence that it came from the mound is entirely circumstantial and inferential.

All the evidence it seems to me compels the following conclusions:

1st. The inscription is not necessarily to be regarded as alphabetical.

2d. If it is assumed to be alphabetical it cannot be referred to any known language.

3d. It is precisely of such a character as would be the result of an ordinary attempt to manufacture an inscription.

4th. Its manufacture is within the capacity of any laborer of ordinary intelligence who may have been employed in the work of exploring the mound.

5th. At the time of its discovery there was no proper scrutiny of the inscription to determine whether it was of recent manufacture or not.

6th. The evidence that it came from the mound is by no means conclusive.

7th. Its history is such that the subsequent discovery of unquestioned ancient inscriptions with similar characters would warrant us in concluding that this also is ancient.

8th. Until its authenticity is thus fully established it ought not to be regarded as *any* evidence of the character, ethnical relationship or intellectual culture of the builders of the mounds.

ADDENDUM.

After the above was written I received from Col. Wharton a correction of his statement in regard to the number of

drifts made into the mound, which does not in any manner tend to modify the conclusions reached above, but indicates Col. W.'s anxiety to be strictly accurate in all statements of facts. He says: "In my answer to your question I said there was but one drift in the Grave Creek mound. *There was not when the stone was found.* I learn from Mr. Hurn who lived there that Mr. Tomlinson subsequently made one and perhaps two higher up, and that all have fallen in."

I have also received a second letter from Mr. Tomlinson, written evidently after he had read the letter in Mr. Cherry's pamphlet (dated March 8th, 1878), in which he puts himself more decidedly in conflict with Col. Wharton and Mr. Catlett, and criticises sharply the statements of some of the other parties. In it he insists that the stone was found over twenty days after Col. Wharton's visit. His letter is not written with the exactness and clearness of statement which is desirable, but a fair and reasonable construction of it implies that he intends to assert positively that neither Col. Wharton nor Mr. Catlett were present at the time or on the day on which the stone was found. This letter strengthens the conclusions reached before its reception.

The originals of all these letters will be turned over to the Society, if its officers will undertake to secure their preservation. The following is a quotation from Mr. Tomlinson's last letter:

"But the time that intervened from Mr. Wharton's visit, on our striking the lower vault and the finding the stone, I can only give from circumstances. Now the removing of rubbish from within the lower vault and carefully gathering the relics must have occupied at least five or six days (there was in the rubbish no rotten timber, it all having decayed to dust, neither was the inscribed stone and its accompanying relics here to be found). The drilling upwards from the lower vault in search of another must have taken four days; measuring the altitude, position of thirty-four feet, to strike the upper vault with a tunnel took perhaps one day; driving the tunnel about fifty-five feet must have taken twelve or fifteen days. You see that twenty-three or twenty-five had necessarily elapsed since the clearing up of the lower vault, and the stone with its accompanying relics not yet found. Three persons were all that were required to drive the tunnel. Wishing not to deface the mound, we drove it low and narrow, barely wide enough for a wheelbarrow to pass. Now the inscribed stone with its accompanying relics was found at the inner end of this contracted passage, in the upper vault, in the way that I have heretofore described. * * * So Mr. Wharton's visit must have been at the clearing up of the lower vault, which occurred at least twenty-four or twenty-five days previous to the finding of the stone." * * *

THE BIBLE NARRATIVE AND HEATHEN TRADITIONS.

The Traces of the Facts mentioned in Genesis in the Traditions of all Nations.

BY REV. STEPHEN D. PEET.

One of the most interesting subjects of modern study is the traditionary lore of the various races of earth.

There is a wonderful charm in these written and unwritten tales. They are not only poetical and beautiful but often very suggestive. In fact there is a depth of philosophy in them which has made them the subject of study to the most intelligent and thoughtful.

In the three-fold division of mythology, tradition and Folk-Lore, no department of literature is more important. It is, in fact, a department of science as well as of literature, and in its bearings on ethnology and the more general subject of anthropology, it is worthy of profound attention.

It is, however, almost a new and unknown department. Comparative mythology has, it is true, in times past, assumed considerable importance. Not only was this the case in the early days of the Christian era, when the mysteries of the cabiri were the subject of study among the learned, but even after the reformation, when Joseph Scaliger and other writers revived the occult subject. Later, too, than this, the comparison of the classic mythology with the sacred narrative became a subject of study, and the Abbe Bannier, Jacob Bryant, the Abbe Pluche and others wrote at length upon the topic. Still later, Sir William Jones, in his extensive travels and by his familiarity with so many languages, became acquainted with the mythology and the traditionary lore of Arabia and of the East Indies; and still later, the studies of Champollion and Sir J. G. Wilkinson, brought to light the ancient but long buried literature and mythology of Egypt and the regions on the Nile; and the translation of the Edda, and the publication of that charming book, Mallett's Northern Antiquities, also disclosed many delightful pictures, and wonderful myths, among the Icelandic Sagas.

The Scandinavian mythology was found to be as poetical and as interesting as the classic, and, in fact, it was discovered that there was a wonderful similarity between the mythologies of the distant East and of the distant West, and that the same stories which had charmed the ears of the Orientalists in their warm sunny home, were only repeated in the frost-regions of the distant North. If the language was different,

the drapery of thought having been borrowed from the different surroundings; yet there seemed to be the same basis of fact.

It was afterward, however, discovered that the American races also possessed a wealth of traditionary lore which was as charming, and as striking in its resemblances, as that of the Orient or of the classics, and it was ascertained that the realm of comparative mythology was not confined to the Aryan race nor even to the Eastern Hemisphere.

Students, as they read the Scandinavian and then the American myths, were surprised at their striking similarity. Such was the resemblance that the reader was almost inclined to suppose that the Icelandic stories had been carried westward and repeated to the tribes of Aborigines by some pre-historic wanderers, or that some unknown intercourse between the two hemispheres had existed. Thus the volumes of "Algie Researches," by Schoolcraft, were found worthy a place beside the Norse Tales or even the writings of Homer.

Still later there appeared another development of the same great subject. The researches of that remarkable man, Brasseur de Brebourg, threw up before the notice of the civilized world, that wonderful waif of literature called Popal Voh, and it was found, that far to the southwest, among the half civilized races of Central America, there were myths and strange traditions which carried one's mind, not back to the Norse regions, but to the Orient; and again the resemblances between the traditions of the Eastern and Western Hemisphere surprised the students.

The depth and richness of American mythology proved remarkable, and there were beauties and wonders in it almost as striking as those of the Scandinavian or the classic.

It remained, however, for that learned Sanscrit scholar, Max Müller, to show the value of these various collections of myths. In his "Chips from a German Workshop" he has shown that comparative mythology is really as important in the study of mankind as is comparative philology. He has given a comprehensive sketch of the various religions of the East, with their earliest history and development, and has at the same time referred to the many works on the Folk-Lore and Nursery Tales of other lands.

He has shown the value of History in bringing to light the earliest religious ideas of mankind, and yet has suggested the necessity of a philosophic and scientific study of the subject. He says, "History with its dusty and mouldering pages, is to us a sacred volume—as sacred as the book of nature. What compels men in the midst of these busy times to sacri-

*Chips from a German Workshop, Vol. II: p. 3, article "Comparative Mythology."

fice their leisure to a subject apparently so unattractive and useless, if not the conviction that in order to obey the Delphic commandment—in order to know what man is—we ought to know what man has been.”

Now it is to this view of the importance of the earliest history of mankind in throwing light upon many of the great problems of science to which we would call attention.

The history of those distant ages and distant men assumes a new charm as soon as we know that it tells us the story of our own race: of our own family, nay of ourselves.

Many things are still unintelligible to us, and the hieroglyphic language of antiquity records but half of the mind's unconscious intentions.” Yet there are many things to be learned by comparing these mystic phrases, and it may be that we shall yet gain an interpretation of these earliest records which throws a flood of light on the dark problem of man. Even these traditions and beliefs which were at the time not half understood, may in the light of later days, become significant of many important lessons.

There is a deep philosophy even in the unconscious workings of the human mind, and even the fragments of thought are sometimes valuable as giving the key to the great arch which is so mysteriously being constructed. It may be that traditionary lore will yet prove to be a sort of universal language among the human race—a language not of words but of conceptions, and that these conceptions have become mingled with the earliest thoughts, and views, and practices of the various races, and then expressed themselves in their myths.

Nor does it matter whence these traditions sprung, whether from a common historical origin or from the inspiration of nature—the teachings of that great-good mother who teaches all her children alike. It is not essential whether we hold to the opinion of a nature basis for them all, or maintain the Historical origin; the resemblances of these traditions is really the point for us to consider.

We have in this essay, however, taken the position that these resemblances are evidences that there was a common historical basis or origin to them, and yet in taking this position we do not enter into a discussion of the subject with any controversial spirit but with a sincere desire to know what is the truth.

The difficulty, however, is in the magnitude of the subject; no department of study involves a more extensive and almost universal range of reading than does this.

To go over the many volumes which have been written on Folk-Lore alone is a formidable task, and yet no conclusion

can be reached, except as this field is thoroughly traversed. Max Müller has mentioned many of these, such as Kelley's Folk-Lore, Dasent's Tales of the North, Dasent's Deccan Days, Tales from the West Highlands, Popular Tales from the Norse, Zulu Nursery Tales and others, and has found in them certain traditions which could be explained on no other supposition than that of a common Historic origin.

The number of books on this subject is, however, increasing rapidly, and scarcely a periodical appears but that mention is made of some new volume. The researches of antiquarians, the observations of missionaries, the testimony of intelligent travellers and explorers, are constantly furnishing new material.

It is said that Jacob Grimm was the first to mention the importance of collecting all that could be saved of popular stories, customs, sayings, superstitions and beliefs, and his Dutch Mythology is a storehouse of such curiosities; but since his day it would seem as if every land had been searched for these strange waifs of literature. Traditionary lore has been gathered from many of the most distant lands, and at the same time the customs of different races have been studied to see what traditional or what historical origin there was to them.

The simplest customs even of modern days, such as dancing around the May-pole, the various religious and burial customs, have thus proved to be connected with tradition; and many of the symbols which are so frequently associated with religious forms, have been traced back to very early times. The works on this subject are numerous and need to be studied.

There are also numerous books of travels, travels in Africa, in Siberia, Independent Tartary and among various wild tribes and uncultivated nations, all of which it is important to consult.

The works on comparative mythology are also numerous. Many of these are quite recent, such as "Cox's Aryan Mythology," and "Brinton's Myths and Myth Makers of the New World," and others, and yet the various Geographical and Geological Surveys are constantly gathering material for new works. In ancient history, also, a vast and increasing field opens before us, wherein we are to search for the original facts on which tradition is based. Not only are the ancient works of Herodotus, Diodorus, Siculus and Plutarch to be consulted, but the later investigations of Rawlinson, Layard, George Smith, Gladstone, Grote and many others.

In the line of comparative religions there are also proofs on the subject, and the works of James Freeman Clarke,

"Ten Religions," of Hardwick, "Christ and other Masters," and many others, need to be studied, as well as the older works of Davidson, Prideaux, Smith's Patriarchal Age, Warburton's Divine Legation.

Now, to sift all this vast mass of erudition, and to gather material from the many different departments of history, ethnology, mythology, and to say that we have arrived at definite proofs on this subject would be presumptuous indeed. Grote, the historian, bears witness to "the uselessness of digging for a supposed basis of truth," and Max Müller himself finds it very difficult to arrive at definite conclusions in reference to many of the myths and traditions even of the old world.

In studying the subject, however, we have not undertaken to trace the resemblance of all this vast and varied amount of material. This would be a task for a life time. The largest part must necessarily be left to its own crude and unclassified condition, and other generations will need to trace the ethnological and the historical lines, or establish the ethnic philosophy which may account for the analogies and resemblances which so extensively appear. There has, however, been suggested to us a way of studying the subject which has at least been helpful and instructive.

It is well known that the Bible is the oldest book in the world, and in reference to the traditions of the ancient races at least, it is very instructive.

In reading the numerous volumes of that rare old work on comparative mythology, "Bryant's Analysis," it was represented that there were certain particular facts which were first recorded in the Bible, and which could be recognized in nearly all the mythologies of the East, and it occurred to us that possibly these same points or facts might also be traced in the traditions of other and even distant lands. We have confined our attention then to the earliest recorded facts of the Bible. It remains for us to show that these many resemblances of certain traditions among nearly all races to the scripture account can be explained on no other supposition than that of a common historic origin.

The scientific proof may be wanting, yet we maintain that the various cosmogonies contained in so many different traditions, the universal prevalence of a certain form of tree and serpent worship, the very common tradition of a deluge, and the various traditions of ancestral history and migrations, are all strong proofs that the same facts recorded in the Bible are at the basis of the resemblances. We may call the Bible story an allegory, or believe, as Tyndall professes to, that it is a poem; or we may suppose that the processes

of nature were at the basis of the sacred record itself, yet the similarity of traditions in these particular points will need to be accounted for.

Now, taking into consideration the fact that these were the common inheritance of the Semitic nations of the East found in history, dug up in buried tablets, recognized in mythology, celebrated by poetry, repeated in many of the sacred books, and confirmed by many recent discoveries, it seems probable that they also might be transmitted through the lines of emigration, and preserved both by tradition and history in other and distant lands. The very discovery, then, of myths or traditions which bear a resemblance to these records of the East would certainly render the supposition plausible that the Bible itself, or the facts there recorded, were really at the basis of these resemblances.

In taking this position we are not undertaking to prove or disprove the authenticity or the authority of the Bible as a religious book, but only as a matter of scientific investigation we consider ourselves at liberty to give this construction to the resemblance.

The cosmogony of the Bible may have been derived from a nature myth, and the serpent and tree may have been the natural objects of veneration and fear; the story of the flood may have been that of a local deluge like others in other lands; the dispersion may have been an historical event; the confusion of tongues also an event which was inevitable from the growth of society and the separation of families; and the story of the fall and the subsequent woes, and defections, and corruptions may all have been mere national and historical events which are recorded in the Bible in the familiar and yet reverential style; but the question still remains, how came the same facts to be so extensively recorded and by so widely separated people.

If these stories of a deluge, of a tree and serpent worship, and of the creation were so similar because each nation had similar experiences, and there were local causes in each which would give rise to the resemblances, still we are at a loss to explain why the coincidences should be so numerous and the resemblances so striking. The symbol of the ark and of the tree and serpent, and the fish, and even the idols which commemorate these early facts are found too often for us to believe that there was not among the nations of the East at least a common origin for them all, and it yet remains to be shown whether the same symbols are not also to be found in other lands.

So, too, the names of the first ancestors among the ancient nations of the East are significant of the name of the first ancestor who is mentioned in the Bible.

It is not always the case that the record of these nations goes back of the flood, yet generally the head or founder of each nation bears a name which strikingly resembles both in the consonants employed, and perhaps even the pronunciation either the Adam or the Noah of our scriptures, and we may suppose all to have orally signified the same person. Among the Greeks, He is Inachus;* in Crete, Minos; among the Etruscans, Minerfu; in India, Menu; in Egypt, Mna; in Germany, Mannus, and over each nation he bears the same relation as the head of the first dynasty, the first ancestor, and king, and lawgiver, and in some cases he is called the great navigator and ruler.

Thus, as we enter upon the subject, we are confirmed by the testimony of history and the evidences of archæology, the symbols and records of the oldest nations bearing testimony for us.

It is then among these historical records that we shall seek for our evidences. Other authors have traced these, and Max Müller has gathered many of them into separate volumes of essays and reviews. It is probable that as to the Aryan race, and the various oriental religions, this assertion that the facts of the Bible may be recognized in them will not be really disputed.

Dr. Spiegel, the learned German editor and translator of the Zend Avesta has shown most conclusively that there is a coincidence. He maintains that this resemblance is found in the following particulars: the creation, the garden of Eden, the two trees, the deluge, Noah's ark, and the four ages of the world. The coincidence in the account of the creation consists in this: that the world was created in six days in Genesis and in six periods of time in the Avesta. In Genesis the creation ends with the creation of man; so it does in the Avesta. The Garden of Eden, and the Paradise of the Zoroastrians are alike, and the rivers Pishon and Gihon may be identified as the Indus and the Jaxartes, known to geographers of this day. The two trees in the garden are recognized in the trees known to the Iranians as the "Gaokerena," bearing the white Haoma, and the "Painless tree," out of which the Indians believe the world to have been created.

The deluge is also mentioned, and Dr. Spiegel compares the Thraêtaçna of the Persians, who divided his land among his three sons, to the Noah of the Bible. He thinks also that the four ages of the Persians coincides with the four periods of the Bible chronology; that from Adam to Noah

*Phillip Smith's Ancient History, Vol. I, p. 85.

being the first, that from Noah to Abraham the second, that from Abraham to the death of Jacob the third, and that of the exile in Egypt the fourth.

Max Müller, in commenting on this view, while often doubting the conclusions of Dr. Spiegel, yet shows the coincidences which may be found between these records in the Zend Avesta and the corresponding account in the still older book of the Hindoos, the Vedas.

The account of the temptation and the fall, the tree and the serpent, he acknowledges to be found both in the Avesta and the Vedas, but he maintains that the dualism of the Avesta, the struggle between Ormuzd and Ahriman, or the principles of light and darkness, is to be considered as the distant reflex of the grand struggle between Indra, the God of the sky, and Vritra, the demon of night and darkness, which form the constant burden of the hymns of the Rig Veda. He says, "neither in the Veda or in the Avesta does the serpent assume that "subtile and insinuating form which it does in Genesis. * * * But the serpent that beguiled Eve seems hardly to invite comparison with the much grander conception of the terrible power of Vrita and Ahriman in the Veda and Avesta." He says, also, "We likewise consider the comparison of the cherubim who keep the way of the tree of life, and the guardians of the *Soma* in the Veda and Avesta, as worthy of attention, and we should like to see the etymological derivation of the word cherubim, from *γρυφες*, Greifen, and of seraphim, from the Sanscrit, *sarpa*, serpents, either confirmed or refuted." So, too, of the deluge he says: "It is not mentioned in the sacred writings of the Zoroastrians nor in the Rig Veda, but it is mentioned in the later Brahmanas, and the arguments of Burnouf, who considered the tradition of the deluge as borrowed from Semitic neighbors seems to us to be strengthened rather than weakened."

Fifty years ago the sacred books of three of the most important religions of the world were not known. It is said that Brahmanism claims for its adherents thirty-one per cent of the population of the globe.

The sacred books of the Brahmanas, the Buddhists and the Magians or disciples of Zoroaster have only become known since the knowledge of the Sanscrit has furnished a key to their translation. The discovery of these coincidences between the ancient writings of the Eastern nations and the Bible is most remarkable. "There is a high degree of interest attaching to their antiquity, for we seem to have not only the beginnings of history but also the beginnings of intellectual life and of religious thought."

But leaving these sacred books of the East and their coincidences, we pass to the accounts of the same facts among the

Western nations. Here we are met at the outset with the familiar myths of the Greeks, of the garden of the Hesperides with its fabled tree which bore the golden fruit, and of the dog Cerberus who guarded the tree, and it does not seem difficult to imagine that this was only another version of the same old story. The deluge of Ogyges and of Deucalion also remind us of the same story of the flood. Gladstone says, "Many elements of the Hebrew tradition recorded in the Holy scriptures, or otherwise preserved among the Jews down to later times, appear in the Olympian court of Homer. The traditions traceable in Homer which appear to be drawn from the same source as those of Holy Scriptures are chiefly these: (1) a deliverer, conceived under the double form, first of the seed of the woman, and secondly of the logos, the word or wisdom of God. (2.) The woman whose seed the Redeemer was to be. (3.) The rainbows considered as a sign of communication between God and man."

He also says, "Certain special features are traceable most of all in the Athene and Apollo of the Homeric poems, but also in Zeus, and in Leto, and in Iris, as well as one or two other Olympian personages, and these features impart to the pictures of them an extraordinary elevation and force, such as to distinguish them strongly from the delineations of other gods.

The features in themselves are in the most marked correspondence with the Hebraic traditions as conveyed in the books of Holy Scripture."

It is very remarkable that in the Greek mythology these later Messianic ideas should have found a place in connection with these early traditions, yet there does not seem to be any doubt that the story of the garden, and of the woman, and of the seed of the woman, can be traced in the poetry of Homer. But it is probable that the advance of Jewish thought may have had its effect on these productions of the Greek mind which were so much later in time and yet so near in geographical location, and therefore we do not dwell upon these coincidences referred to by Gladstone.

There is, however, a great contrast between the Greek mythology and the Scandinavian in this particular. The latest remnant of primitive heathenism is here found surviving the Greek and the Roman by nearly a thousand years, and yet for simplicity of the narrative and for striking resemblances to the earliest traditions nothing is equal to it. The story of the creation, and of the garden, and the flood as it is found in the Scandinavian myths furnish

the most striking coincidences to the sacred narrative. It seems, indeed, like passing over a whole day of history thus to turn from the earliest book of the Vedas to the late date of the Eddas, and from the distant and warm region of the East to the frozen regions of Iceland and the North, yet the story seems to have retained its peculiarities in all its long wanderings.

Iceland was peopled and civilized by the Norsemen in the ninth century. The early emigrants were, however, Pagans, and Max Müller says that their religious system "may be called one of the various dialects of the primitive religions and mythological language of the Aryan race." (Chips from a German Workshop, Vol. II, p. 191.) He says, too, "There are passages in the Edda which seemed like verses from the Vedas." There are, also, several mythological expressions common to the Edda and to Homer.

Mr. Kelly has also drawn the parallelism between the Indian and the Iranian world Tree, and the Ash tree, Yggdrasil of the Scandinavians, as Dr. Spiegel has between the Painless tree of the Persians and the Soma of the Hindoos.

We shall quote fully and literally from the translation of the Edda as found in Mallett's Northern Antiquities.

"Many ages before the earth was made, was Niflheim formed, in the middle of which lies the spring called Hvergelmir, from which flow twelve rivers—Gjöli the nearest to the gate of the abode of death."

"But first of all there was in the southern region the world called Muspell. It is a world too luminous and glowing to be entered by those who are not indigenous there. He who sitteth on its borders to guard it is named Surtur. In his hand he beareth a flaming falchion, and at the end of the world shall issue forth to combat, and shall vanquish all the gods and consume the universe with fire. * * * Thus whilst freezing cold and gathering gloom proceeded from Niflheim, that part looking towards Muspellheim was filled with glowing radiancy, the intervening space remaining calm and light as wind-still air. And when the heated blast met the gelid vapour it melted into drops, and by the might of him who sent the heat, these drops quickened into life and assumed a human semblance. The being thus formed was named Ymir, but the Frost Giants call him Orgelmir. From him descend the Frost Giants." * * *

"Thus it is said that when Ymir slept he fell into a sweat and from the pit of his left arm was formed a man and woman, and one of his feet engendered with the other a son from whom descend the Frost Giants. The sons of Bor slew the giant Ymir, and when he fell there rose so

much blood from his wounds that the whole race of Frost Giants was drowned in it except a single giant who saved himself with his household. He escaped by going on board his bark, and with him went his wife, and from them are descended the Frost Giants." * * *

Odin may justly be called the All Father for he is really the Father of All, of Gods and of men, and to his power all things owe their existence." * * * In the beginning he appointed rulers, and bade them judge with him the fate of men, and regulate the government of the celestial city. They met for this purpose in a place called Idovöll, which is in the center of the divine abode. Their first work was to erect a court or hall, where were twelve seats for themselves besides the throne which is occupied by All-Father. This hall is the largest and most magnificent in the universe, being resplendent on all sides, both within and without with the finest gold. Its name is Gladsheim. * * * That age was named the Golden Age. This was the age that lasted until the arrival of the women out of Jötunheim who corrupted them.

Of Ymir's flesh was formed the earth; of his sweat (blood) seas; of his bones, the mountains; of his hair, the trees; of his skull, the heavens; but with his eyebrows the blithe Gods built Midgard for the sons of men, whilst from his brains the lowering clouds were fashioned. * * * One day as the sons of Bor were walking along the sea beach they found two stems of wood out of which they shaped a man and a woman. The first (Odin) infused into them life and spirit; the second (Vili) endowed them with reason and the power of motion; the third (Ve) gave them speech, and features, and hearing, and vision.

The man they called Ask, and the women Embla. From these two descend the whole human race, whose assigned dwelling was Midgard. * * *

"The ash is the greatest and best of all trees. The branches spread over the whole world and can reach above heaven. It has three roots. One of them extends to the Æsir, another to the Frost Giants, and the third stands over Niflheim and under this root which is constantly gnawed by Nidhogg is Hvergelmir.

This third root of the ash is in Heaven, and under it is the Holy Urdar-fount. 'Tis here that the gods sit in judgment." * * * "There is an eagle perched upon its branches who knows many things, and the squirrel named Rotatosk runs up and down the Ash, and seeks to cause strife between the eagle and Nidhogg. There are so many snakes with Nidhogg in Hvergelmir that no tongue can recount them.

MYTHOLOGIC TEXT
IN THE
KLAMATH LANGUAGE OF SOUTHERN OREGON.

COMMENTED BY ALBERT S. GATSCHET.

Lupí nālsh hūnk Kmúkamtch shutäyéga; ná-asht nālsh hūnk gá-ag kēmutchátk shashapkēli-ia gēnta kāilatat. Tchía hūk lāpi shá-ungaltk Aíshish Kmukámтчchish; né-ulxa hūnk gēn nánuk tuá ká-akt hūk gäg, nánuk tuá kiām ámbutat wá gítki giug. Tchúyunk pān I-ulalónan tchkash né-ulxa páplishash gítki giug; mú gint nkillipsh tiwísh ndúlsh-ampksh páltki múash shlé-uyuk, tchúyunk máklaksash kiām ítblank pálshtat pátki gi.

TRANSLATION.

At first Kmúkamtch commenced to create us; thus an old man long ago told us in myths about this world. There lived the two, father and son, (called) Aishish and Kmukámтчchiksh; this one resolved, that here should come into existence whatever there is, and all the various kinds of fish that live in the water. Hereupon he also ordered that at Cascade Falls (Linkville) a rock-dam should come into existence; that when the south wind blows, it should drive back the waters, loudly roaring at their rushing down, and that the Indians should then, on the dry river bottom, gather up the fish and feed on them.

This text forms the commencement of a long and very popular Indian myth: "The attempted destruction of Aíshish by his father Kmukámтчchiksh," which I obtained and wrote down in the Klamath language, while sojourning among the Maklaks Indians, in October, 1877. The whole myth is so thoroughly original, and so faithful a picture of the Indian mind, that even this fragment of it cannot be suspected of containing anything else but the ancient heathen idea of the creation. This myth, however, is lacking the most interesting features of all creation myths, viz: the statement, of what substance the world or earth was made, and how it was made. Notwithstanding all my attempts to find out what these Indians think about these points, I obtained no satisfactory clue, and was brought to the conclusion that there exists no creation myth among them which is generally adopted by the tribe. But they have myths for every separate creation, for every animal or class of animals; I have even ob-

tained a long story explaining the origin of the black spot on the loon's head. The origin of man is accounted for by some by the fact, that Kmúkamtch created him from a service-berry (tcháák), while other myth-tellers prefer to have him made of clay; and to explain the difference of color, they say that the Creator put his first red man in the sun to dry, while he let the first white man become dry in the shadow.

Kmukámtchiksh, in the abbreviated form Kmúkamtch, is to the Klamath or Máklaks Indians the creator and maintainer of the universe, and the ruler of mankind and its destinies. In power, none of the other geniuses and demons can approach him; he is a mean, low-mannered, tricky and false character, who is constantly on the lookout for destroying his son Aishish by some unexpected stratagem. He is the demon embodying all the qualities that we can expect of the divinities of a *hunter*-people, and his great analogy with the "Old Coyote" of California may well impress us with the idea that his prototype was one of the wild quadrupeds. His son Aishish, to judge from the names of his five wives, whom his father seeks to abstract from him, was probably a bird-genius, and his name has to be rendered by the "Secreter" or the "Concealer."

THE WORDS OF THE TEXT.

Lupí means firstly, at first; it is the adverb of the adjective lupíni, in its distributive form, lulpíni: the first (in time, rank or order). This might lead to the supposition that Klamath possesses a series of ordinal numerals. But no other adjectives exist which can be compared to our "seventh, eighth," etc., except the *first*, the *second*, which also means the *middle* (týálmni), and the *last* (topíni, tápíni).

nálsh, *us*, the objective case of the pronoun nād, *we*. The full form is nálash, and the objective case in -ash also stands for our dative case: *us* and *to us*, *for us*.

húnk is here a temporal particle, indicating that the action of the verb, to which it belongs, was accomplished in the *past*.

Kmúkamtchiksh, abbrev. Kmúkamtch, can best be interpreted by "the Old Man of the ancients," and is somewhat analogous to the second part of our cant term, "the dollar of our daddies." The adjective -ámtchiksh, -ámtch, is appended to all the names of the animal demons, or mythical beings of the past, which fill the Olympus of the Klamath mythology. It seems transposed from mántch, and means 1) old, ancient; and when suffixed to objects of common use, as brooms, dishes, etc., it means 2) used up, good for nothing.

shutáyéga, inchoative form of shutáya, a derivation of shúta, to make, produce, create. The two suffixes forming

verbs which indicate the beginning of an action or state, are -éga and -támpka; wésh tchutchäyéga and wésh tchutchaitámpka: the ice commences to melt.

ná-asht or ná-ash, nāsh: thus, so, in this manner.

gá-ag or ká-ag, long ago, a long time ago; a derivation of ka-á, ga-á, the intensitive particle, *very, very much, quite much*.

kēmutchátko is the full form of kēmutchátk, and is the participle in -tko of the verb kēmútcha, to become old. -tko is an ending that often possesses an active, but more frequently a passive signification. The possessive case of kēmutchátko is kēmutchápkam, the objective kēmutchápkash, the locative kēmutchápkat.

shashapkélia means to tell stories, myths or fables in the interest or for the pleasure of somebody; the final -í-, inserted before the verbal ending a, has the power of adding to every active verb the idea that the action is done in the interest of somebody, sometimes of the one who performs the action. Shápa, to tell, count, is the basis from which the term is derived through reduplication of the first syllable, and through a diæresis of the i to attain a rhetorical effect.

génta káilatat, "concerning, about this earth" or "world." This phrase stands in the locative case, and in other connections could also mean upon this earth, from this earth, etc. Káila means 1) earth, world, ground; 2) dirt, mud, and occurs also in the Pit River language as *kéla*, being one of the rare terms which this idiom has in common with Klamath. This phrase proves that pronouns (and adjectives) do not always show the same case-endings than the substantives which they determine.

tchá or tsía (for tch and ts are always interchangeable), 1) to stay, remain; 2) to sit, to be seated; 3) to live, exist; to be.

húk, particle, of a similar effect than húnk, q. v.

lāpi, lāpi, means *two* in the subjective case; lālapí would mean each of the two, being the distributive form; lāpuk, both; lāpēni, twice; lāpantka, by means of two (f. i. by two blows, or two shots), an instrumental case.

shá-ungaltko: standing in the relation of father to son. The language possesses many of these comprehensive terms of relationship, f. i. shutpaksáltko, related to each other as brother and sister; shiptchýáaltko, related to each other as brother and sister-in-law. These terms are derived respectively from unák, son; túpaksh, younger sister; ptchíkap, sister-in-law. In European languages, few of these forms exist, though we may compare the German *Geschwister* and *verschwistert*.

Kmúkamtchish is contracted from Kmúkamtch tchish; Aishish Kmúkamtch *also*. The language possesses no term corresponding exactly to our *and*, and thus has to render the

idea of cöordination either as above, by *tchkash*, *pen* or other particles, or by placing both terms aside of each other without any connecting particle whatever.

né-ulʒa, to order, command, decree, resolve; from this verb is derived *né-ulaksh*, an order, edict, resolution, behest: an ancient custom observed as a law; *né-ulakgish*, council meeting, powwow; *né-ulakgishla*, to erect a council-house; *né-ulakta*, to enforce an order, to punish, chastise; *nenólʒish*, decree, judgment; *netnólkish*, government of the tribe or country; legislature.

gên, a demonstrative pronoun referring to inanimate objects only.

gäg, *kêk*, is a demonstrative pronoun referring to persons and animate beings as well as to things; formed by duplication of the simple demonstrative *kê*, *gê*, *gä*, and then apocopated.

nánuk tuá is composed of *nánuk* *all* and *whole*; the Latin *omnis* and *totus*, French *tout* and *entier* (*integer*), and of *tuá*, thing. *Nánuktua*, in one word, is the common way of pronouncing this term, which means every kind of, every class of objects. *Tuá* is in fact an interrogative particle—what? which?—and has gradually passed to the signification of: “thing, object, article.”

kákat, per diæresin *ká-akat*, *ká-akt*, is the distributive form of the relative pronoun *kat*, who, which.

kiâm, generic term for all kinds of fish, and related etymologically to *kidsha*, to swim under the surface of the water.

ámbutat is locative case of *ámbu*, *ámpu*, water; it forms derivatives like *ámpka* (for *ámpaga*), little water; *ámpuala*, to lie in deep water; *ámbutka*, to be thirsty.

wá, *uá*, to stay, live, exist. This verb has always a complement indicating the medium, spot or locality where the subject lives or exists, while *tchia*, which has the same meaning, does not need this complement.

gítki *giúg* are two forms of the verb *gi* to be; referring to casual existence like the Spanish *estar*. It also means (but not here) to do, to possess and to say; *gítki* *giúg* means to come into existence and is a causal form directly dependent from *né-ulʒa*, and the same may be observed in the sentence following next.

tchúyunk, “hereupon,” a contraction of *tchúi*, afterwards and *húnk*, particle indicative of the preterit tense.

pän, *pén*, *péna*, again, secondly; *tchkásh* also, just as well; both are enclitic particles and the latter is a contraction of *tchékash*, *tchêk* meaning *at last*.

páplishash is the objective case of *páplish* dam, stoppage of waters. It is very scarce that inanimate substantives like this take the suffix of the objective case *-ash*, and this can be accounted for only by a sort of personification.

I-ulalónan or Yulalóna is the Klamath name of the Falls of the Link River connecting Upper with Lower Klamath Lake, and also of the town of Linkville recently built in their vicinity. The verb i-ulalóna means to move forth and back, to produce a rubbing motion, while i-ulalína signifies: to form an edge in falling, or to form a beach or shore-line, and is said of waters.

mû, strongly, impetuously; the adverb of mûni great, large, grand; determines the participle nkillipsh "being in rapid motion," a contraction of nkillipkash, which is the objective case of nkillitko, the participle of nkílla, nxílla to be in a rush, to rush forward.

gínt locative adverb: there, at that spot.

tiwish the roar of rushing waters; the nominal form of tiwi to rush down with noise. From this term the town of Linkville also received the name of Tiwishxéni "where the cascade-noise is," xéni being a locative case-postposition.

ndúlshampksh for ndulshámpkash, obj. case of ndúlshantko, the participle of ndúlshna, (ntúltchna) to flow downwards, to flow or rush, said of streams. In the formation of the object. case the n is assimilated by the following p into m, and in ndúlshantko the transposition of a and n has taken place already. The thematic basis of ndúlshna is tíla "to spread about," hence we observe change of vowel, and in the initial consonant a nasalizing process.

páltki to become dry, viz: by the waters being forced back under the pressure of the south wind (múash); -tki is a verbal suffix which may be called formative of the "intentional verbal," and in the construction páltki (from pála to dry up, v. intr.) is governed by shlé-uyuk.

shlé-uyuk, causative verbal of shléwi; in the distributive form shléshlui, to blow (said of winds); shléwish the wind, wind-gust; shlé-uyuk means: because (the south wind) blows, or whenever (the south wind) blows. The same causal suffix -uk (-og, -óga, -úga) is found to occur in the giug above.

máklaksash obj. case of máklaks, person, man, Indian, and Klamath or Modoc Indian, literally "those living in camps," from mákléxa to encamp. Its construction with pátki gi "in order to eat" forms a sort of "accusative cum infinitivo" construction, governed by né-ulxa. gi to be is added here to the intentional verbal pátki (from pan to eat) into a form of periphrastic conjugation.

ítklank participle of the *present* of ítka (for ítkałank) to gather up, pick up, collect (in baskets, f. i.). When *one object* is found or taken up only, ndákal is used, but here kiäm is a collective noun.

pálshtat for pálishtat "upon what was left dry," locative case of verbal noun pálish, of pála to dry up. To be render-

ed by: on the dry bottom (of Link River.)" A river bottom left entirely dry for years and years is called páлкуish, the particle -u- imparting the idea of a preterit to the verbal of páłka or páłxa to dry up (v. trans., not intr.)

Unnecessary to state, that the above text is written by means of a scientific alphabet, in which the letters have the value attributed to them on the European continent. With the perfected graphic means presently at our disposal, no person of common sense should henceforth attempt to write Indian languages with the syllabifying method or by means of the English alphabet, which is said to be historical, but is so inconsistent with itself, that it is not even fit to render the English language with accuracy.

The author of this, detailed with Prof. J. W. Powells' Geographical and Geological Survey of the Rocky Mountain Region, is preparing a voluminous, systematic report on the language of the Maklaks Indians.

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REMAINS IN A DELAWARE MOUND.

The attention of scientific men has recently been attracted to a neighborhood upon Middle Sound, some ten miles east of this city, by the discovery there of large quantities of human remains of an unknown race and period, scattered at intervals along the ocean front of this plantation. Yesterday a party of gentlemen were present at the opening of two mounds of relics. Nothing unusual was found in the first mound, but the examination of the second resulted in a very interesting discovery. Digging a circular well in the center of the mound, at a depth of six or seven feet there was found a circular deposit of charred coals, mingled with fragments of human bones; which had evidently lain there undisturbed for a long time, and in their original deposit. Among the bones they discovered a black, glittering and unknown substance resembling mica, which they reserved for further examination, and a fine specimen of brown and transparent quartz. The persons to whom these bones belonged were evidently fastened together and burned at this spot, and afterwards covered with soil. Who they were and what the occasion of their fate, is of course a matter of conjecture. Further explorations may determine their race and nation. We believe these are the only mounds of this character, and the only evidences of a similar sacrifice yet discovered.

Wilmington (Del.) Star, June 22, 1878.

CORRESPONDENCE.

DAVENPORT ACADEMY OF NATURAL SCIENCES,
November 12th, 1878.

REV. S. D. PEET, Unionville, Ohio.

Dear Sir: In the last number of THE ANTIQUARIAN, in the "Editorial Notes," the Rockford and the Davenport Tablets are mentioned in the same paragraph. Of the former, after reading Mr. Moody's paper at the late session of the Congress of Americanists, Mr. Lucien Adam remarked: "Here again is an archæological fraud, but this time it was of short duration." Of the Davenport Tablets, I have carefully translated the remarks of that distinguished Americanist, M. Lucien Adam and others upon them and send them herewith for publication in your journal.

Yours truly,

R. J. FARQUHARSON.

From the Proceedings of the International Congress of Americanists. Second session, held at Luxemburg. Sixth sitting, September 12, 1877. Subjects—Linguistics and Paleography. Professor Leon de Rosny in the chair.

Mr. Lucien Adam presented to the Congress an extract from the Proceedings of the Academy of Natural Sciences of Davenport, Iowa, in which is given an account of a discovery of the highest importance made recently by the Rev. J. Gass.

Mr. Adam said: "The 10th of January, 1877, Mr. Gass had the good fortune to find at the base of a conical mound, situated on the farm of Conk, not far from Davenport, two tablets of bituminous clay, upon one of which are engraved: upon one side, a funeral scene accompanied by an inscription; and upon the reverse, a hunting scene."

"It appears to result from *undeniable proof regularly given* (des constatations régulièrement faites par l'Académie) to the Academy of Natural Sciences of Davenport, that *this time the find is authentic*.*

"In fact, Mr. Gass exhumed the tablets *propia manu*, and under the eyes of several gentlemen who assisted him in the digging, which was conducted without any interruption."

*This alludes to the animated discussion which took place, in a previous part of this session, upon the Grave Creek Inscriptions and Col. Whittlesey's pamphlet on Archæological Frauds.

"The scene represented on the face of one of the tablets makes us present at an inhumation which is collective, and precedes a cremation: a big fire is kindled on the summit of a slightly elevated mound. Three dead bodies are deposited on the ground, and thirteen Indians, joined hand in hand, dance around the funeral pile. This rude work of a pre-Columbian artist confirms in all points archæological inductions. But the importance of this discovery consists much more again in the unexpected fact, that the funeral scene is accompanied by an inscription consisting of 98 signs, of which 74 are different, while 24 are simply repetitions. This circumstance that a certain number of signs (eight) are repeated, six and four, three times, justifies the expression, "inscription" which I make use of."

"I propose to the assembly to decide that the study of this precious monument be placed on the order of the day for the next session."

The Count de Marsy said: "The discovery of a Mound-builders' inscription presents such an interest, that it would be proper, if nevertheless the thing is possible: that the plate which we have before us, be reproduced in the proceedings of the session."

The President, de Rosny, said: "The idea is an excellent one."

Mr. Adam said: "The committee of publication will certainly gratify the wish expressed by Messrs. de Marsy and de Rosny. But, as the discovery of Mr. Gass contains besides this, a hunting scene, on which a supposed elephant is recognized, and also a second tablet called a "calender stone," I ask the archæologists present to make a note of the exact like of the pamphlet sent us by our friends in North America."

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OMAHA AGENCY, NEB., DEC. 9, 1878.

Dear Sir: I am working for Major Powell on the Ethnology and the Philology of the Ponka and Omaha [Dhé-gi-ha is the generic term]; and I have had rare opportunities of gaining an insight into the peculiarities of the Iowa and Otoe dialects of the Ti-ré-wi. In the family of languages that I have been requested to examine are the Dakota (including Ho-he or Asinni-bwaⁿ); Ponka and Omaha; Iowa and Otoe; Osage, Kausas, and Quapaw; Winnebago (of which I have gained over a thousand words); Mandan; Hi-da-tsa, and Crow; Tutelo (reduced to writing by Horatio Hale); and possibly, the Catawba of S. C. According to instructions I have gained nearly a hundred letters dictated to me in Omaha

and Ponka; a collection of fables and traditions also in the original tongue; and an insight into the gentile or clan system of the four tribes [Ponka, Omaha, Iowa, and Otoe]. If the following is of any worth, you are welcome to it, and can give it a place in *THE ANTIQUARIAN*. It may be of some service to your readers:

Suggestion to Collectors of Ethnological Material.

1. Is not the tribe divided into gents or clans? [I prefer "clans." J. O. D.]
2. Is there a larger division of the tribe into two parts, as they camp around the *tribal* circle?
3. Is each "clan" subdivided? How many such subdivisions?
4. Is there a holy tent in the center of the tribal circle?
5. Name for each half of the tribe?
6. Name for each clan, and meaning?
7. Name for each subdivision, or sub-clan?
8. Do all the sub-clans of each clan encamp *within* the *clan* circle; or is their order of encampment different?
9. Are any of the sub-clans divided? If so, names of each division?
10. How many of the clans have a share in the "holy pipe?"
11. Peculiarities of each clan?
 - (A). Is the name that of an animal? [Not so among Omahas and Ponkas.]
 - (B). Name of what is "tabu." [Sometimes one article, sometimes two or more. May be restricted to *eating*; or *eating* may be allowed, but skin or oil, as of deer, may not be used; or the article that may be *touched*. The sub-clans may derive their names from this custom, as "those who touch not the bear," "those who touch not the buffalo-head," "those who do not eat (*small*) birds," "those who *carry* the turtle" (but do not *eat* it).
 - (C). Style of hair worn by boys (sometimes by girls) of each clan or sub-clan?
 - (D). Has each clan (or sub-clan) its peculiar *name-list* for men and women? for boys and girls?
 - (E). What marks are put on the women dancers of each clan or sub-clan, when they are "spotted?" Are there any other peculiarities?
12. Has any clan a peculiar name for its chief, a name that is hereditary? [So among the "mud-lodge makers" of the Omahas.]

By writing the fables and traditions of a tribe, not depending upon a number of translations, *but having the original of*

each, we can form some idea of "the historical evolution through which every one of its idioms has passed."

For example, in the Omaha fables there are words that are never heard elsewhere. If they were formerly used by the tribe at large, they are not so used at the present day. The fables point to a time when there were no white men in the country. On the other hand a Ponka fable recently obtained is of modern date, for it speaks of a coyotè "getting fat on crackers (!) stolen from the wagon of a white man." It has not been more than a hundred and fifty years since the Ponkas separated from the Omahas.

I gained this afternoon the names of the Yankton (Dakota) clans. So that I can now say that among the Omahas, Ponkas and Yanktons, the clans are not named after certain animals. But they are so named among the Winniebagoes, Iowas, Otoes, and Kausas or Kaws. My Yankton informant, Walking Elk, conversed with me on the subject both in his own dialect and in Omaha.

Hoping that some of the above may prove of interest, I remain,

Yours respectfully,

J. OWEN DORSEY.

—:O:—

[NOTE BY THE EDITOR.—In the early settlement of Ashtabula county, a large number of iron axes were discovered, some of them having been dug up from a depth of twenty inches. They were accompanied with other traces of the presence of white men, such as old charrings, inscribed stones evidently designed as headstones for graves, and skeletons which bore musket barrels in their bony hands. The following correspondence is given to show how extensive the distribution of these trade axes was, and to call attention to the various evidences of the early occupancy of the country by whites.]

SINCLAIRVILLE, CHAUTAUQUA Co., N. Y.,
December 3d, 1878.

REV. STEPHEN D. PEET,

Dear Sir: The finding of axes you mention is an interesting circumstance, and I hope you will see that all the facts relating to it are preserved.

The iron and steel axes that are found occasionally in the territory south of Lake Erie, I suppose, were those that were furnished to the Indians by the French and English, or that were in the use of the French and English themselves. Some of them were left by their owners where they were found at a comparatively recent date. Iron axes were formerly sometimes found by the early settlers along the Catteraugus Creek in N. Y. This stream flows into Lake Erie at the eastern boundary of Chautauqua County. Along this creek the Indians had settlements, but they were not made there until as late as 1780. At Aurora, in Erie county, New York, (where there are many Indian relics), many years ago were found several hundred pounds of Indian axes where a tree had been turned up by the wind; the most of these axes were without

steel, but one was entirely of steel. Seven or eight hundred weight of wrought iron, and a cannon, with words in French engraved upon it, were found in Hamburg, Erie county, N. Y., many years ago; and in 1805 a beautiful anchor was found in the sand and gravel on the lake shore near the same place. Much discussion occurred respecting these matters at the time through the papers, and it was believed with much probability that these were relics from the Griffin, La Salle's first vessel that was lost; supposed by the Jesuits to have been driven ashore in a gale. Axes have been found in Chautauqua county, along Chautauqua Lake and the tributaries of the Alleghany flowing through that county. These relics have been attributed also to the French, but are as likely to have been left by the Indians. From the description of them, I think they were such as you mention. I have seen a very beautiful steel tomahawk that was found in this county; unlike those mentioned by you, however. I think all the axes of the kind you mention were left here subsequent to the year 1650. The French missionaries and traders first crossed the lake into Northern Ohio, then.

In the year 1764, Col. John Bradstreet with 3,000 men passed up along the southern shore of Lake Erie, and relieved Detroit from an attack by the Indians under Pontiac. He returned with 1,100 men by the same route, in the fall of the same year. His boats, I think, were row boats. They were wrecked about seven miles east of Cleveland, in a storm. A great many relics of this disaster have been since found along the shore—guns, swords and a mound full of bones supposed to be those of some of his soldiers. The remainder of the way to Fort Niagara, they made by land, along or not far from the southern shore of the Lake, suffering great hardships. The details of this part of their journey have never been preserved. Israel Putnam held a subordinate command in this expedition, a fact that is not generally known. The axes you mention may relate to this expedition. I do not know of any Indian town near Ashtabula, although the territory in that region, subsequently to the destruction of the Eries, was much frequented by the Iroquois; particularly during Wayne's and St. Clair's campaign they would pass through that locality.

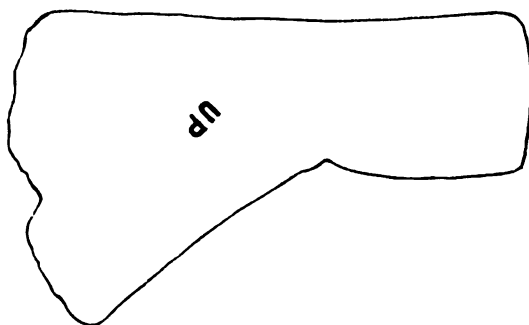
Your article in the last *ANTIQUARIAN*, concerning the location of the Indian tribes, interested me much.

Truly Yours,

OBED EDSON.

MUSCATINE, Nov. 25th, 1878.

Dear Sir: In answer to yours in regard to iron axes, I have heard of only one being found in this region. This was found thirty-five years ago in the fork of a very large walnut tree. The remains of a hardwood handle were still in the eye of the ax, but it was almost decayed away. The ax was almost buried in the tree. The place where found was the scene of an old Indian camping ground, perhaps sixty years ago. Whether there is much importance attached to this or not, I do not know. The ax is very roughly made, and weighs $1\frac{1}{2}$ lbs. The hammer end is very much battered. I enclose drawing of shape.



I mail you to-day a paper containing an account of a small find. The copper ax is very fine. The "sheet of copper" is simply the remains of an ornamental band of some kind, or perhaps a wristlet. It is very thin and seems to have been pounded until it is brittle and slivered. I attach nothing of importance to it. The pot is of very ordinary construction, both as to size and ornamentation. The article in the paper is somewhat sensational. From the nature of my business I could not go with this party this time in the year. But we are now organizing more thoroughly and will make a more careful examination early in the spring.

I have in my possession now a *very large* piece of a pot, the largest I have heard of. It was washed from the river bank about eight years ago, some three miles below this city. No other parts of it have ever been found. I probably have only one tenth of the original vessel, but from measurements I find that the aperture in the top was at least one foot four inches in diameter, and through the bowl in the largest part two feet four inches. It is marked on the outside as most of the Mound-builders pottery is. The substance is very hard, composed of ground muscle shells and a blue clay substance.

This has been a monster jar, having the capacity of a half barrel.

Will be pleased to give you any information in my power from this part of the country.

Respectfully,

THERON THOMPSON.

————:O:————

NEENAH, WIS., Dec. 10th, 1878.

Rev. and Dear Sir:

About a year and a half ago Mr. T. H. Thurston of Oconto, Wis., found two implements of the pattern following, in the Oconto Marshes, some 25 miles north of Green Bay. Their history was involved in profound mystery to all who examined them. That they were a cutting implement there could be no doubt; though their shape is so perfectly moulded after one half of the modern and improved pick that one was thrown off the scent by the resemblance. Still the conclusion arrived at was that they were cutting implements. But who used them? Who constructed them, so finely fashioned as they are? They exhibit marks of superior workmanship; indeed it would be a difficult matter to get as good a job done in any country blacksmith shop to day. They are well preserved, and when found, if I mistake not, the handles were still in the sockets, though decomposed to an earthy black-mould.

Mr. Thurston deposited the axes, as we have described them, in the cabinet of the Archæological Society of Northern Wisconsin. Mr. J. V. Suydam, a member of the society, brought us the requisite information, which I transmit, together with his drawing? Mr. S. who has surveyed this entire Northern Peninsula, is well acquainted with the manners and customs of the Indians. He considers these axes a great acquisition to archæological store as showing at least the variation in that most useful *domestic* implement the woodcraftsman's axe. We may accept our find as a *link between the stone hatchet and the modern*, exquisitely manufactured cleaver of to-day.

Truly Yours,

GEO. GIBSON.

————:O:————

ALEXANDERSVILLE, O., Dec. 1878.

Dear Sir: Your interpretation of the circumvallation of Fort Ancient "struck" me as a novel departure from the beaten track. The serpent, it is evident, was a prominent feature in the Mound-builders' worship, but the idea of

Phallic worship never occurred to me as having been connected with it. But if it should be demonstrated, we should not be surprised. Analogous forms, amounting, in some instances, almost to identity, have been discovered among widely separated peoples. For example: Buddhists, ancient Mexicans or Aztecs and the Catholics.

If Prof. Read's presentation of the subject is correct, it suggests a marvellous divergence from the original "Phallos."

But the prominent object of this letter is to call your attention to two enclosures situated on "Big Twin," a tributary of the Great Miami, in both of which the horse-shoe form occurs.

A few years ago, assisted by Mr. C. E. Blossom, of *The Miamisburg Bulletin*, I surveyed these works, a description of which appeared in his paper. But they were described simply as protective positions. If desirable I will send you a brief description of them.

I have devoted much time to mound investigations, with interesting results—and have collected numerous specimens of Palaeolithic handiwork, some of which possess more than ordinary interest.

S. H. BINKLEY.

—:O:—

QUEEN'S COLLEGE, OXFORD, Feb. 20th, 1878.

Dear Sir: In a land of tokens like North America we may expect to meet with many clear evidences of animal symbolism, and the discoveries which you mention seem to show that the Mound-builders belonged to the same race as the red Indians.

Is there a Central Museum into which the majority of the objects found within the mounds have been collected, or are they scattered over the country in local museums? An exhaustive catalogue of them would be very important for comparison with the pre-historic objects of Europe.

After making allowance for the common possession of objects necessary to savage or semi-barbarous tribes, which might have been invented independently in different parts of the world, there ought to remain a certain number which would be decisive as to whether there was or was not, any connection between the Mound-builders of America and the pre-historic peoples of the old world.

My own belief is that a carefully conducted investigation would show that there was not, but the investigation could not be begun until the pre-historic objects found in the United States had been exhaustively classified.

Do you think that the present inhabitants of America, excluding the Eskimos are, as is so often asserted, of one and the same origin?

Linguistically it seems to me that there are several distinct groups of languages, which go back to different original centers, though all have a similar polysynthetic structure. This, however, may be ascribed to the similarity of geographical and climatic influences.

Is it possible that the racial similarity, commonly supposed to exist, may be ascribed to the same cause?

Very Respectfully,

A. H. SAYCE.

—:O:—

THE PALACE ST. ASAPH, Aug. 28th, 1878.

I am sorry to say that few European scholars are at present engaged upon North American Indian languages. Hence the importance of their being taken up by American scholars. I well know Mr. Gatschet's name, and am looking forward to his contributions to *THE AMERICAN ANTIQUARIAN*.

It is much to be wished that he and Mr. Trumbull had followers. Cannot you persuade either one of them to contribute a comparative grammar of some of the Indian dialects and of other languages of which we possess grammars?

The work done by the U. S. Geological survey in the department of ethnology and linguistics is most valuable. At the meeting of the British Association in Dublin, I had the pleasure of giving much information regarding the languages of the Western Innuït from Mr. Dall whose writings I had been lately studying.

Duponceau's work is now out of date, and cannot be trusted.

You may count upon my doing all I can towards helping you to make your magazine, etc., known among European scholars. For myself, I feel that there is so much to be done by those who are living on the spot that it would be an impertinence for one who lives on the other side of the Atlantic to occupy space which might be used by those who have a greater claim to be heard.

I return to Oxford in a day or two, preparatory to starting for Florence for the Oriental Congress.

Yours faithfully,

A. H. SAYCE.

ANTHROPOLOGICAL NEWS.

Edited by EDWIN A. BARBER, West Chester, Pa.; to whom all communications for this Department should be forwarded.

THE first number of *Science News* contains some instructive "Archæological Hints," by Dr. C. C. Abbott.

THE Smithsonian Institution has just unpacked a collection of modern Indian utensils and implements from Alaska. In the collection are several objects which throw considerable light on the uses of some of the ancient stone implements of the Mound-builders, of heretofore enigmatical character. The methods of hafting, as revealed by some of the tools are particularly interesting.

IN order to facilitate the labors of specialists in the various departments of archæology, THE ANTIQUARIAN will publish, from time to time, notices of public and private collections of stone and bronze implements which may be scattered throughout the United States, thus bringing together the material for an exhaustive review of the aboriginal productions of this and other countries. It is desired that all interested in the subject will contribute whatever facts they may be able to obtain in this relation.

THE Smithsonian Report for 1877, just issued, contains a number of valuable ethnological and archæological papers, among which may be mentioned as particularly worthy of note "Antiquities in Wisconsin," by Moses Strong; "Mound-Builders in Illinois," by James Shaw; "Ancient Earthworks in Ohio," by Dr. Geo. W. Hill; "Antiquities of Tennessee," by W. M. Clark; "Aboriginal Structures in Georgia," by Col. Chas. C. Jones, Jr.; "Stock-in-trade of an Aboriginal Lapidary," by Dr. Charles Rau; "A Polychrome Bead from Florida," by Prof. S. S. Haldeman, and "Santa Rosa Island," by Rev. Stephen Bowers.

SOME of the members of the Philosophical Society of West Chester, Penn., opened a number of Indian Graves in Chester County, that State, in November last. The skeletons were found at an average depth of three feet below the surface, the heads to the east. A quantity of glass beads of European workmanship were found about the necks of the bodies, and in one grave a number of iron *coffin nails* and two clay tobacco pipes of English manufacture, with the initials R. T. stamped in them, were found. The graves, of which about thirty could be traced by shallow depressions, were probably not

more than a century and a half old and marked the last resting-places of the rapidly disappearing Lenni Lenape or Delaware Indians.

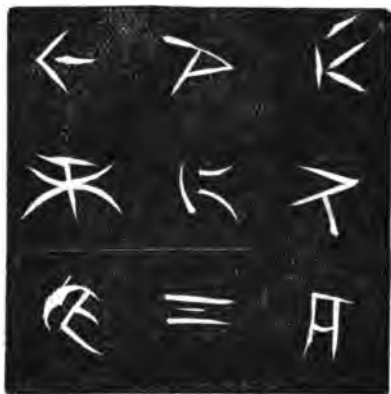
THE relics of the Swiss Lake Dwellers are rapidly finding their way into the American museums. We have mentioned the fact that a valuable series of lacustrine implements has recently been placed in the museum of Natural History in New York; a small but choice collection of bronzes, stone and stags' horn implements, pottery, fruit and cereals, collected by Dr. Ferdinand Keller of Zürich, is now on exhibition in the museum of the Pennsylvania School of Industrial Art, in Memorial Hall, at Philadelphia; also in the same city, in the collection of Mr. William S. Vaux, a third series of these relics may be seen. We will be gratified to learn of the existence of other isolated collections from the Palafittes, which may be in the possession of individuals or institutions.

THE eleventh annual report of the trustees of the Peabody Museum of American Archæology and Ethnology has been published at Cambridge. This is by far the most valuable contribution to American Ethnology as yet published by that Institution. Besides the reports of the curator, building committee, etc., it contains the following papers: *Second Report on the Implements found in the Glacial Drift of New Jersey*, by Dr. C. C. Abbott; *The Method of Manufacture of several Articles by the Former Indians of Southern California*, by Paul Schumacher; *Cave Dwellings in Utah*, by Edward Palmer; *The Manufacture of Soapstone Pots by the Indians of New England*, by Professor F. W. Putnam; *Notes on a Collection from an Ancient Cemetery in Southern Peru*, by John H. Blake; *Archæological Explorations in Tennessee*, by F. W. Putnam; *Observations on the Crania from the Stone Graves in Tennessee*, by Lucien Carr; *On the Tenure of Land Among the Ancient Mexicans*, by Ad. F. Bandelier.

THE latest acquisition to the ethnological collections of the American Museum of Natural History, of New York City, is the *De Morgan* collection, so called after its originator, a French nobleman. The portion of this extensive collection, purchased by Robert L. Stuart, Esq., and recently deposited in the museum by Gaston L. Fenardent & Co., consists of the following groups of objects: Implements of the Archæolithic and Neolithic Periods, from central France, excavated in the Loire Valley. Specimens from the south of France, from the caves of Dordogne, including a fine series of bones, many of them engraved. Implements from the gravel beds of Warren Hill, Suffolk, England, from excavations personally conducted by Canon Greenwell, of Durham Cathedral. Obsidian instru-

ments, from new discoveries made in ancient Crete and Greece, which bear a striking resemblance to objects of the same material found in Mexico. A select series of stone and bronze articles, from the Swiss lakes, is one of the most interesting features of the collection. This consists of numerous objects of syenite, diorite, porphyry, jade, etc., most of them in their original handles of stag-horn; also clay vases and fossil bones of arctic animals, from Lattringen, Sutz, Estavayer, Locraz, Chavannes, Gérofin and Oefeli. The collection illustrating the Bronze Age contains numerous ornaments, axes, razors, fish-hooks, etc. The Bronze Age of Great Britain and France, is also represented by a choice set of arms and tools.

IN THE last number of the *Antiquarian* (page 107) the editor has alluded to a recent find of alphabetical stones. In digging a post-hole near Woodstown, N. J., forty-six flat, elliptical or circular, water-worn pebbles, about the size of a silver half-dollar, were unearthed some twenty inches below the surface. On each side, near the center, is a small circular depression or ring which resembles the commencement of a perforation, and seems to have been made with a hollow reed. On one side of each pebble a character has been scratched or "pecked," which bears a greater resemblance to an alphabetical symbol than anything of the kind yet discovered in the U. S. Of the forty-six characters, but three are duplicated. Whether these stones are authentic aboriginal productions, can only be determined by a careful investigation, although the large number would seem to point to their genuineness. The annexed cut will convey some idea



of nine of the most characteristic. In a future number of the magazine, their authenticity will be discussed. Mr. Wm. S. Vaux, of Philadelphia, who is in possession of them, believes them to be of Indian workmanship, and, indeed, they have every appearance of considerable antiquity; but, if such is the case, it is impossible, at present, to decide whether the characters possess any significance or whether they are simply unmeaning devices.

Collectively they resemble no known alphabet, though some few of them are almost identical with ancient Greek, Phœnician and Cypriote characters.

FOREIGN.

M. MORENO has established an Anthropological Society in Buenos Ayres.

M. ARTHUR FORGEAIS, a noted French archæologist, died recently in Paris.

A CAST of Cleopatra's Needle will shortly be placed in the south-east court of the South Kensington Museum.

THE French Association met at Paris in September. The Congress of 1880 will be held at Rheims, M. Krantz presiding.

It is stated that the Duke of Edinburg has purchased all the available antique pottery and glass in the Island of Cyprus.

SEPTEMBER 15-19 was set apart for the the general meeting of the United German Societies of Archæology and History, at Marburg.

THE fifth annual report of the *Museums für Völkerkunde*, in Leipzig, for the year 1877, shows by its full list of members and contributors that it is in a most flourishing condition.

THE Cambrian Archæological Association held its annual meeting at Lampeter in Cardiganshire, about the middle of August. A number of Roman sites and remains were examined in the neighborhood.

DR. F. MOOK has collected in Egypt, during the past few years, a large number of ethnological specimens, which have recently been placed in the museum of the University of Freiburg. Among these are 300 skulls, about 80 mummies, and 10,000 specimens of flint implements, ornaments and vases.

MR. WM. BRAGGE, F. S. A., of Birmingham, England, possesses the largest private collection of the pipes and smoking utensils of all countries, in the world. His collection consists of about six thousand specimens, being the result of thirty years' labor. His illustrated catalogue extends through 20 volumes.

REV. W. HERZOG, of Oppau, near Frankenthal, Bavaria, who has for several years devoted much time to the study of Indian Languages, has discovered that there exists a most intimate relation between the languages of the Aleutian Islands

and those of the Yuma stock of southern California,—an additional proof of the emigration from Asia.

THE 35th Congress of the British Archæological Association met at Wisbech, on the 20th of August, for the examination and study of the ancient architecture of that section. A number of churches and monastic buildings were visited and in the evenings a number of interesting papers were read. Several excursions were made from Wisbech in different directions and a number of Roman remains examined.

THE first volume of "Beiträge zur Anthropologie und Urgeschichte Bayerns," published at Munich, is a valuable contribution to European Archæology. It is issued by the Munich Anthropological and Ethnological Society, and is a quarto volume of 330 pages, accompanied by twenty-six lithographic plates of antiquities, etc., including a plan of excavations carried on in the Island of Roses.

THE eastern coast of Asia and the western coast of America are to be explored by Dr. Van der Horck, with a view to determining the migratory routes of the tribes of both continents. The expenses of the expedition will be shared by the German Government and the Geographical Society of Berlin. It is to be hoped that some light will thus be thrown on the origin of the American Races.

PROF. G. DE MORTILLET has issued a circular "with reference to a proposed album of the most beautiful types of women." He wishes to collect photographs of beautiful women of every race and tribe, with a view to arranging them scientifically for study, on the basis that "the most beautiful persons in each race ought to be the most typical, if the law of selection is real." All communications should be addressed to M. G. de Mortillet, au Château de St. Germain-en-Laye (Seine-et-Oise) Paris.

UNDER date of Nov. 26, 1878, Dr. Henry Schliemann writes from Hissarlik that he has discontinued his excavations at Ilium for the winter. Besides a large number of gold ornaments, idols, etc., one *iron dagger*, four inches in length, was unearthed. Most interesting, however, is the discovery of large numbers of objects of the stone age, such as saws and cutting implements of silex and obsidian. In the kitchen refuse were found large quantities of shells and bones of the hare, pig and fish, with boars' tusks, stag horns and flint chips. In the Trojan layer of *debris* was found an ulna of a boar with a flint flake upon it.

IN the Biological section of the last session of the British Association (held at Dublin in August), the following papers, among others, were read: "A note on an Expiring Race on the Bhutan Frontier of Hindustan," by Mr. S. Dumont Beaghton; "The Flint Implements of Egypt and Midian," by Capt. R. F. Burton; "Polyandry and its place in the Evolution of the Human Family," by M. Renard; "Ancient Races of Ireland," by M. Henry Martin, the French historian; "Notes on the tribes of Midian," by Capt. R. F. Burton; a paper by Dr. Daniel Wilson, of Toronto, Canada, on the Evolution of New Varieties of Men in America; Prof. Rolleston described his exploration of a bone-cave near Tenby. Gen. Lane Fox read a paper on an examination of Cæsar's Camp at Folkestone.

THE British Museum has recently received two bronze monuments covered with bas-reliefs in *repoussé* work. These were brought to England by Mr. Hormuzd Rassam, who unearthed them from the Balawat mound near Nimroud. They are oblong frames, the larger measuring about twenty feet in height and fifteen in breadth, and somewhat resemble gigantic modern hat-racks. They were undoubtedly, originally, wooden frames covered with bronze plates, but the wood-work has entirely disappeared, leaving hollow metallic cases. What they were designed for, it is at present impossible to determine. They are supposed to date back to about the year 800 B. C. From each of the side posts of the larger monument, seven arms project. The smaller, however, possesses the seven arms on one side only. Mr. Rassam also brought to England a large number of fragments of tablets from Assyria. Among these are dictionaries, documents, contracts, etc. His collection of Assyrian antiquities is very large and of great value. His excavations were carried on for the Trustees of the British Museum. He was to have left England again on the 20th of September to resume work at Nineveh.

DR. OSCAR LOEW, of Munich, formerly connected with the Wheeler survey in this country, writes from Germany of a recent discovery in a swampy region near Vechelde (a station on the Braunschweig and Hanover R. R.) of bones of men and stone implements together with the bones of *Bos primigenius*, the wolf and hog. A discovery near Wolfenbüttel, not far from the former locality, possessed still greater interest. In blasting a mass of limestone, of recent geological formation, while constructing a road, a stone axe, some human bones, portions of the skeletons of the horse and

buffalo, associated with fragments of charcoal were found fourteen feet below the surface of the rock.

In the same letter, to the *Antiquarian*, Prof. Loew contributes the following foreign news:

"From the 11th to the 16th August, the annual meeting of the German Anthropological Society took place at Kiel (Holstein). The productions of a cave at Thayngen (Switzerland) were subjected to some discussion. Some of the bones from this source contained sketches of animals, which Dr. Fraas believed to have been intended for *Ovibos moschatus* (the same species which still exists in Greenland); Prof. Ranke, however, was of the opinion that any other species of large cattle could have furnished the model. The question was also discussed how bronze first came into use. During the session, Prof. Hölder made some remarks on the different forms of human crania. He divides the German skulls into three kinds: the Germanic, the Sarmatic and the Turanic. A connection between the color of the eyes and hair and the form of crania was proved; the blond type belongs to the Dolichocephali, whilst the dark complexion seems to tend toward the Brachycephalic form. The next subject was the extent of the Germanic and Slavic elements on German soil. Prof. Oscar Fraas announced that the prehistoric map of Germany would soon be ready. This promises to be a highly interesting work. Prof. Virchow demonstrated the great difference which exists between the skulls of men and apes, which, according to Haeckel, are almost identical."

"Quite recently a book, entitled 'Die Arier' (the Aryans) has been published by Theodor Poesche, who is residing at present in Washington. It is very ably written and shows the author in the light of an ardent anthropologist who never neglected to make himself acquainted with every new publication touching on his subject. He attempts to prove that the Indo-European (Aryan) nations did not originate in Asia, but in the forest and swamp lands between the Baltic and the Black Seas, in Russia. He holds that the white race are albinos or semi-albinos of the Mongolian Race, an idea which I previously advanced, in 1873, as will be found in my description of Lieut. Wheeler's expedition to New Mexico and Arizona (Petermann's Mittheilungen, 1874, Heft. XI, page 409)."

LINGUISTIC NOTES.

PROF. Dr. Friedrich MUELLER, in Vienna, the author of the ethnologic and linguistic reports of the Novara Expedition, and well known by a multitude of other scientific publications, is now writing "Outlines of Linguistic Science;" 8° (in German). In the second volume he reaches the American languages and has already given a statement of the structure of the Ale-utian and the Inuit or Eskimo Languages.

A DEALER in old books in New York City recently charged six hundred dollars for an original *Molina*, *vocabulario en lengua Castellana y Mexicana*, etc., a small quarto, of which the first edition is extremely scarce, and other old Spanish-Mexican prints are taxed at similar sums. We think if some enterprising publisher would republish the above standard work of the Aztec language, he would find ample patronage for it among the *librarians* and students of America and Europe.

THE excavations at OLYMPIA, Greece, are still going on. The most important object found of late is an inscription on a bronze tablet, containing 22 lines, though we find no indication in which of the four dialects the text is worded. While Mr. Schliemann was pursuing with success his excavations in Ithaca, he received a ferman from the Turkish government permitting him to resume his exploratory diggings at Hissarlik, the ancient Troy.

A LINGUISTIC curiosity are the four volumes of memoirs published by *LeQuei*, one of the Commissioners sent by the Chinese Government to the International Exhibition at Philadelphia. It has recently been translated into English and published in London under the title of "*Round the World*;" the two first volumes give his impressions of the cities of the United States and of the Exhibition, while in the third the author summarizes his experiences made in Europe.

ACCORDING to a recent newspaper notice, Mr. T. BRIDGES, now missionary in Ushuvia, an English station on an island south of Terra del Fuego, is publishing a dictionary of the Fuegian language, containing about 15,000 terms. Another English investigator, Bishop Stanley of the Falkland Islands (called in Spanish *Islas Malvinas*), is writing now a comparative sketch of the Fuegian, Patagonian and the Araucanian (or Chilian) languages.

IN two recent meetings of the Anthropological Society of Munich, Bavaria, Oscar LOEW, D. Ph. and formerly a member of Lieut. Geo. M. Wheeler's Expedition, spoke on the names of colors in the Indian languages of North America, and on resemblances observed between Chinese, Japanese and Indian terms, these latter being taken from languages spoken by Shoshoni and Yuma Indians, and by the Pueblos of New Mexico.

HENDRIK RINK, in his "Danish Greenland," states that there were printed in the Eskimo or Inuit language about 50 books, of which more than half are of a religious character. A newspaper is also published there, which in 1874 contained 194 pages of text in quarto and 200 pages of illustrations. The number of native inhabitants has decreased from 9648 in 1855 to 9588 in 1870; and in the latter year 237 Europeans sojourned in 176 winter stations. The Appendix contains a vocabulary of Inuit words and proper names, and a series of archaeological notes. The full title of this instructive work of the former Governor of Greenland, who stayed 28 years in these sub-arctic regions, is as follows: "H. Rink, Danish Greenland, its People and its Products." London, 1877. 8°, Illustrated. Publishers: S. King & Co.

ON FUSANG, the mythical country of early Chinese folklore, a German savant, E. Bretschneider, publishes an interesting review in the "Mittheilungen d. Deutschen Gesellschaft für Natur-und Völkerkunde Ostasiens," No. 11, 1877, which is reprinted in the proceedings of the Vienna Geogr. Society, December, 1877, pp. 566-583. This elaborate paper proves by means of numerous quotations from Chinese and Japanese annals of the earliest centuries of our era, that Fusang was then a topic on which the imaginative powers of the nation exercised itself about in the same manner as the Greeks and Romans did with their "Islands of the Blessed" (*insulæ fortunatæ*.) If such a country ever existed, it could not have been America, but was probably no other than Japan, whose world-renowned volcano, Fusi-yama, might possibly have given the start to the fabulous stories embodied in the Fusang myth, both names being not unlike to each other.

MR. LUCIEN ADAM, of Nancy, France, well known already by his writings on some of the eastern Ural-Altaic dialects and on the Cree and Odjibwê dialects of the wide-spread Algonkin family, has published last year his "*Examen Grammatical Comparé de seize langues Américaines* (Paris, Maisonneuve & Co., 8°, 88 pages, and tables of vocabularies.) In

this paper the most important features of the best known American languages are treated under separate headings, as attributive verbs, reflective and reciprocal verbs, declension of nouns for number and case, etc. The languages spoken of are Cree and Odjibwē; Dakota and Hidatsa (or Minitari); Maya and Quiché; Montagnais; Iroquois (Mohawk dialect); Chahta; Aztec; Carai'b and Guarani; Chibcha; Quicchua; Kiriri. The article forms a portion of the "Transactions of the International Congress of Americanists." In another publication of 165 pages the same studious author has embodied his researches on six of the above languages; their peculiarities are given here more in full, and it has been the special purpose of the author to show to what extent the idioms can be called polysynthetic. These six idioms are the Sioux-Dakota, Aztec, Chibcha, Quicchua, the Quiché and Maya. Published with the title, "*Etudes sur six langues Américaines.*" (Paris, 1876; 8°).

—:O:—

RECENT DISCOVERIES.

The Discovery of a third Inscribed Tablet, is one of the items of interest contained in the Report of the Davenport Academy of Sciences, the advanced sheets of which have been sent us. It was found in mound 11 on Cook's farm, a farm which seems to be prolific with stones of this character.

A Mound Builder's Pipe Carved in the form of an Elephant is also another result of exploration among the mounds by the members of this association. Dr. J. A. Farquharson has kindly forwarded us a drawing of this pipe. It is certainly very curious and interesting.

The existence of Mounds in the shape of elephants has been reported from various localities in the State of Wisconsin, and quite recently a letter from Dr. Charles S. Edwards of Kentucky, contains the description of a piece of pottery in the shape of an elephant's (possibly a bear's) foot, which was taken out of a mound near Nashville, Tenn.

This finding of an elephant pipe will be regarded with great interest by archæologists as possibly affording some clue as to the age of the Mound-builders.

A Curious Ancient Mexican Library has been found in the ruins of a vast palace at Xoyi, near Chiapas in Southern Mexico. The writings are inscribed on terra-cotta tablets, half an inch thick, and are supposed to be sacred records; but the language in which they are written is not accurately known.—*Librarian.*

Discovery of an Ancient Burying Ground.—The *Cincinnati Commercial*, for October 11th, contains a communication from Eaton, Ohio, which describes the discovery of an ancient burial place. The skeletons, about fifty in number, were taken out of a gravel-pit, near Lewisburg, Ohio, and seem to have been those of seven women and children, mingled indiscriminately. The writer, in speaking of their position says: "There is a very curious fact in regard to the burial of these bodies, as a great many seem to have been buried face downward, and in some cases they were found in a sitting posture. In one place several skulls, were found in a circular position, and in the center of this ring was found a single skull, all of which were baked in a tremendous hot fire, as the clay in which they were burned, so to speak, had been heated to such an extent that the ground for many feet deep was almost calcareous. Many suppose that the skull in the center of the ring was that of a distinguished chief, and that their curious way of burial was a curious whim of their religious rites, while others think they were Mound-builders and not Indians, as the remainder of a number of skulls were buried in trenches which radiate from this circular assemblage of skulls. In many places it appears that these bodies were not buried in the bare ground, for in many cases they have a bed of charcoal under and above them, a good preserver; the bones would have disappeared long since had they been buried otherwise. Many of these skeletons were found not more than from three to four feet under ground.

Lewisburg is a small place, situated in a beautiful locality in the northeastern part of this county, on the west bank of Seven-mile, one of the principal branches of the Miami river.

Joseph Singer, one of the first settlers of Ohio, built a small cabin within one hundred yards of this ancient burying ground, in the year 1798, and cleared off and improved the same farm now owned by his son. When he first settled on this farm it was used very often by the Miami tribe of Indians as a camping ground, there being several excellent springs near by. There has been no one buried at this place so far as the present generation can reach.

The Cave-Dwellers in Ohio.—The *Marietta Register* for October 12th, describes a visit to a remarkable cave situated near Decatur, Ohio. The writer says:

"The peculiarity of the cave consists more in the contents than in the cave itself; said contents being a pile of ashes of some twenty wagon loads, in which are found old bones of various kinds, also shells, flint and pieces of ancient pottery. We dug over the ashes some and found pieces of human

bones and fragments of rude pottery, also bones of wild animals, decayed clam shells, etc. Among the rest, some kind of a tusk, supposed to be the tusk of a young mastodon, as Mr. Burnett found the teeth of a mastodon in digging a well near there some time ago. The human jaw-bones were very large, teeth well preserved, and with one tooth farther back than that now known as the wisdom tooth. Some of the bones were pretty well preserved, as the ashes in which they were found was very dry, while others crumbled with a touch, and all were broken or split in order, probably that the marrow might be secured; thus disclosing evidence of cannibalism.

There were two distinct layers or crusts of ashes, showing the accumulation of different ages.

There are other caves in the township, with ashes in, but we only visited one that gave such evidence of the prehistoric man.

Decatur is a remarkable country. For wild and romantic scenery it is scarcely excelled if equalled in the State. There is plenty of good agricultural land there, too, as the many fertile fields and handsome homesteads plainly show. It is a country well worth the attention of the tourist in every respect.

—————:O:—————

COL. C. WHITTLESEY writes concerning the Inscribed Stone from Grave Creek Mound that "whether a forgery or the work of the Mound-builders it does not seem to me that the characters have any alphabetic or phonetic value. The remarkable feature of the experiment in fabricating characters confirms my views in reference to the stone found near Grand Traverse, Mich., and as to several rocks with Indian pictures inscribed upon them.

PROF. O. T. MASON informs us that he is now preparing for Major Powell's Survey a complete map and synopsis of the Indian Tribes formerly existing in the Mississippi valley. This is a very important work, and we hope that he will receive all the assistance needed to make the work as nearly perfect as it is possible.

OUR EXCHANGES

* AND RECENT ARTICLES UPON EARLY HISTORY AND ARCHÆOLOGY.

Science News, Vol. I. Archæological Hints, by Charles C. Abbott, M. D.

Rocky Mountain News. The Ancient Cities of Cibola, by Rev. Sheldon Jackson, D. D.; Schaminism in Alaska; January, 1879. Many other articles of interest.

The Bulletin of the Essex Institute: Salem, Mass. Vol. 10. Archæological Explorations in Tennessee, by F. W. Putnam; Remarks on Indian Character by Prof. George Dixon of Hampton, Va.

The Saturday Magazine, (Weekly), 1879. The Phœnician in Greece, by Rev. A. H. Sayce. Fairy Lore of Savages, by J. A. Farrar, in No. 5; Religion of the Ancient Egyptians, by Rev. J. N. Hoare, No. 7; The Mammoth in No. 8.

The Universalist Quarterly, 1878. Man, as Affected by his Surroundings, Samuel Powers; The Book of Enoch, Rev. A. G. Laurie. Science against Darwinism, Rev. John Moore, April. Lewes' Physical Basis of Mind, Rev. J. M. Atwood, July. Plato and Christ, Rev. W. C. Stiles; October.

The Southern Presbyterian Review, 1878. Wales, January No. Pan Hellenism, April No.; Cain, a Speculation by Rev. J. W. Pratt; The Cuneiform Inscriptions and Biblical History in the Old Testament, by Rev. B. M. Smith; The Failures and Fallacies of Pre-historic Archæology, by Rev. J. A. Waddell, Oct. No.

The Western Review of Science and Industry, Vol. II, edited by Theo. S. Case, Kansas City. The Great Pyramid, by Rev. James French. New Mound Discoveries in Missouri, by C. W. Stevenson. Archæology in Central America, May. Ancient Pottery found in Missouri Mounds by A. J. Conant, Oct. Peruvian Antiquities, by E. R. Heath, M. D. Ancient Olla Manufactory, Nov.

The American Naturalist. The Ancient Pueblos, or the Ruins of the Valley of the Rio San Juan, by Edwin A. Barber; Plants used by the Indians of the United States, Edward Palmer; Notes by O. T. Mason on the Punishment of Prostitution among the Aborigines, and on the Diminutive Mounds of Oregon Indians; An Ancient Olla Manufactory;

* In noticing the recent articles on the subjects embraced within THE ANTIQUARIAN we have purposely referred only to those magazines with which we have effected an exchange

Aboriginal Burial Crania utilized as Cinerary Urns; A Vessel of Glazed Pottery from Florida. Aug. to Dec.

The New England Historical and Genealogical Register, for 1878. Penhallow Papers: Indian Affairs, by Pearce W. Penhallow, Esq.; Jan. Walter Bryant's Winnebepesaukee Journal, 1747; com'd by Capt. William F. Goodwin, U. S. A.; July. Discovery of North America, by John Cabot, 1497, by Fred Kidder, Esq.; Passengers and Vessels that have arrived in America, (1639, Oct.) Search for the North West Passage, 1631, by A. E. Cutler; Pre-historic Copper Implements, by Rev. Ed. F. Slafter, A. M.; Jan'y, 1879.

The Popular Science Monthly.—The Progress of Anthropology, by Prof. T. H. Huxley. The Emotions in Education, by Prof. Alex. Bain, LL. D.; Oct. Evolution of Ceremonial Government, by Herbert Spencer; Plants and the Peopling of America, by Otto Kuntze; Nov. Emotions in Education, by Prof. Alex. Bain, LL. D.; Language and Emotions, by Dr. Charles Waldstein; Animal Intelligence, by George J. Romanes; Dec. Traces of an Early Race in Japan, by Prof. E. S. Morse; Heredity by George Iles. See *Review of THE AMERICAN ANTIQUARIAN*, in *December No.*

The Magazine of American History, Vol. 2, 1878. De Cel-erons' Expedition to the Ohio, by O. H. Marshall. The Four Kings of Canada, (with cuts). March No. Visit of the Mohawks to Fort Penobscot, 1662, by B. Fernow; La Salle's account of the American Indians, translated by J. A. Stevens, from the Margry Papers. April No. The Voyage of Verrazano, (with maps), by B. F. DeCosta. May No. The Nantucket Indians described by St. John de Cr ve Coeur, translated from Lettres d'un Cultivateur Americain, Paris, 1787. June No. Indian Antiquities in Rhode Island. The Verrazano Map, by B. F. De Costa; Champlain's Expedition of 1615, by O. H. Marshall; The Magic Circle of the Yuma Conjurers, by A. S. Gatchet. August No. The Mound-builders—were they Egyptians? by Wm. L. Stone. Exploration of the Mississippi River, by La Salle, translated from the Margry Papers by the editor. Sept. No. Rivers and Peoples discovered by La Salle, 1681-2, translated from a Detached Leaf in the handwriting of La Salle; An Indian Reception, (1687), taken from Margry's French Discoveries and Settlements in the west and south of North America, by J. A. S. Oct. No. Indian Tribes of the Maligne river, translated from Joutel's Relation, 1682, by the Editor. The Mound-builders, by R. S. Robertson. Nov. No. The Aborigines of the Housatonic Valley, by E. W. B. Canning. Assassination of La Salle, from Joutel Relation, by the Editor. Dec. No.

BOOKS RECEIVED.

PAMPHLETS.—The Journal of the Cincinnati Society of Natural History, April, 1878, Vol. 1, No. 1, 52 pp. Report of Pioneer and Historical Society of Oregon; Astoria, Oregon, 1875. Some early notices of the Indians of Ohio. To what race did the Mound-builders belong? by M. F. Force. Cincinnati, Robert Clark, 1879; 75 pp. Oration by Col. Charles C. Jones, Jr., at the Unveiling of the Confederate Monument in the city of Augusta, Ga., Oct. 31st, 1878; 9 pp. Relatio Itineris in Marylandiam. Narrative of a Voyage to Maryland by Father Andrew White, S. I. Extracts of Letters of Missionaries from the year 1635 to the year 1677. Edited by Rev. E. A. Dalrymple, S. T. D. Maryland Historical Society, 1874. Recent Archæological Discoveries in the American Bottom, by Henry B. Howland, from the Bulletin of the Buffalo Society of Natural History, March 2, 1877. 3 pages of plates; 8 pp. Latimer Collection of Antiquities from Porto Rico, in the National Museum at Washington, by O. T. Mason; Washington, 1877. 34 pp.; 14 pp. cuts. Comparaisons entre les ossements des cavernes de la Belgique et les ossements des Kjoekkenmoedding du Denmark du Groenland et de la Lapond, par M. J. Steenstrup: Bruxelles, 1873. 15 pp. Ill. La Colonization de la Russie et Du Nord Scandinavia et Leur plus Ancien etat de civilisation, par J. J. A. Worsae, Copenhagen, 1875. Sur L'emploi du fer météorique par les Esquimaux du Greenland, par J. S. Steenstrup, Bruxelles, 1873. Proceedings of the Central Ohio Scientific Association. Urbana, Ohio; part 1 and part 11. Urbana, 1878. The New West, by E. P. Tenny, Cambridge, 1878. Proceedings of the Academy of Sciences of Philadelphia. Part I, Jan'y–April, 1878. Part II, April–Sept. 1878. Editor, Edward J. Nolan, M. D. Philadelphia, 1878. Containing a notice of the late Dr. Pickering, by W. S. W. Rieschenberger, M. D. Also, two papers by Dr. A. J. Parker on Convolutions of the Brain in the Primates and Negroes. Also, one by Dr. J. A. Ryder on the Mechanical Genesis of Tooth-forms. On a Polychrome Bead from Florida, by S. S. Haldeman, Washington, 1878. (Smithsonian Report.) The Antiquities of the Mound-builders of Wisconsin, by J. M. De Hart, M. D. Antiquities and Early History of Jersey county, (Ill.) by Hon. Wm. McAdams of Otterville, Ill. Champlain's Expedition of 1615. Reply to Dr. Shea and Gen. Clark, by O. H. Marshall. Reprint from Mag. of Am. Hist. Aug. 1878. De Celerons Expedition to the Ohio, in 1749, by O. H. Marshall. Reprinted from Mag. of Am. Hist. March, 1878.

Anales del Museo Nacional de Mexico. Tomo I Entrega. 1a, 2a, 3a, 4a. Mexico, 1878. Folio, 196 pp. This Report of the National Museum of Mexico contains articles on Archæology, by Sr. D. M. O. rosco. T. Berra and Sr. G. Mendoza. On Geography, by Sr. D. J. Sanchez, and on Geology by Sr. D. Mariano, Barcena. The articles on Archæology are very valuable. Proceedings of the Antiquarian Society, Worcester, Mass, 1878

BOUND BOOKS.—The Dead Towns of Georgia, by Charles C. Jones, Esq. Savannah, 1878; 260 pp. Outlines of Political History of Mich. by Judge J. V. Campbell. Detroit, 1876; 606 pp. The Popham Celebration, Aug. 29, 1862, commemorative of the Planting of the Popham Colony, Aug. 19, O. S., 1607, establishing the title of England to the Continent. Edited by Rev. Edward Ballard. Portland, 1863. U. S. Geographical and Geological Survey of the Rocky Mountain Region; J. W. Powell in charge, contributions to No. Am. Ethnology, Vol. I: Washington, 1877; containing Tribes of the extreme Northwest, by W. H. Dall, and contributions on Linguistics, by Hon. J. Furnhelm, Geo. Gibbs, M. D., and Maj. J. W. Dall; 361 pp. Ditto, Contributions to N. American Ethnology, Vol. III, containing Tribes of California by Stephen Powers, and Comparative Vocabularies of the Karak, Yurak, Chimariko, Wishhosk, Yumi, Pamo and other families of Indian Languages. 634 pp.

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BOOK REVIEWS.

YOUNG FOLKS' HEROES OF HISTORY.—The Voyages and Adventures of Vasco Da Gama, by George M. Towle. Boston: Lee & Shephard. 1876.
Pizarro, His Adventures and Conquests, by George M. Towle. Boston: Lee & Shephard. 1878.

These are two charming books written by the same author and upon kindred topics. The early voyages and the military adventures which were connected with the discovery and conquest of this country cannot be read too much by our American youth. They are very charming, and yet they inspire a noble love for our country, and at the same time awaken a desire to know more of its early history. Mr. Towle, the author, wields a skillful pen. His statement of facts is very accurate, and yet his narrating and descriptive powers are excellent. We are very glad that he has given attention to this line of study. The next of the series, we understand, will be "Young Folks' Life of Bismarck," a book which will doubtless be very readable and good. We hope,

however, that we shall have others on the early history of our own land, and that the series will yet reveal how many heroes there were who were engaged in exploring and conquering this country.

AGAMENTICUS, by E. P. Tenney. Boston: Lee & Shepard. 1878.

This is another of the books which have now become so common, whose design seems to be to show the peculiarities of our American Heathenism. This time the scene is laid in the backwoods of Maine, and the time is the early days of Puritanism. The book differs from many others of its kind in that there is a greater mixture of scholarly quotations and classic phrases, with the hackwoods talk and the outlandish names and characters, and less of the story style. The work of depicting the rude and boorish ways and half savage life so peculiar to some localities in our country may be necessary in a historical novel, and yet the contrast between the culture of the old Romans (Pagans as they were) and these, heathen of our Christendom, and between the beauty and chasteness of some of the medieval writers, (belonging to the dark ages as they did), and the peculiarities of the backwoods preachers of our enlightened times, is not altogether pleasant. The book shows extensive reading and much literary ability, and is full of interesting descriptions and suggestive thoughts. We hope the book will be read, and that this, with all literature of the kind may prove an incentive to improvement and to a higher culture.

A NEW edition of Edward B. Tylor's "*Researches into the Early History of Mankind*" is brought out by Henry Holt & Co., Among the points most fully treated are the gesture language with its development into words; picture and word writing; images and names; growth and decline of culture; the stone age, past and present; fire, cooking and vessels; remarkable customs; historical traditions and myths of observation, and the geographical distribution of myths. The final chapter contains some interesting deductions from the preceding matter.

WINCHESTER, ILL., Oct. 31st, 1878.

REV. STEPHEN D. PEET,

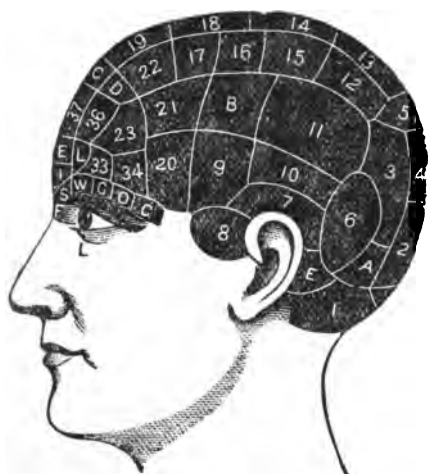
Dear Sir:—I have received the first numbers of THE ANTIQUARIAN and am highly pleased with them. Information derived from a single article in the first number is worth more to me than ten times the subscription price for a whole year. I wish to make some suggestions through you to our friends who are engaged in the study of anthropology in the United States. The fact is we have long felt the want of just such a journal as THE ANTIQUARIAN. It is a convenient medium for placing on record a very large amount of information that would probably never otherwise find its way into print. To archæologists it is invaluable. It brings us into communication with each other, and by utilising each others' observations and reflections we add to our own individual stock of information, and thus promote the cause of science. Let us by all means keep up the character of the Journal to the standard of the numbers issued. To do this we must contribute articles to *our* journal. I am fully aware that we must do more. You, sir, certainly never established or began the publication of THE ANTIQUARIAN with the idea of making money out of the enterprise. The question with me is will it be able to survive without lowering the present character?

To my scientific brothers throughout the United States I say: Let us sustain our Journal. *We must do it.* We cannot afford to let it die or dwindle away to nothing for want of support. There is no trouble in the matter if we lay hold in earnest. I propose to do my part. I will send you a paper for the next number, and enclosed in this letter I send you \$2.00 more and also \$2.00 for an additional subscriber. If each subscriber will do as much, you, Mr. Editor, before the beginning of the second volume, will have a mass of scientific matter out of which you can select and give us the best, and what is more, *money in your pockets to pay the printer.* How many of our subscribers will follow my example? Two dollars is but a small sum to each of us, individually, but multiply it by three or four hundred, and it makes an amount that will put our Journal on a sure foundation.

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JOHN G. HENDERSON.

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ii.

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THE AMERICAN ANTIQUARIAN.

VOL. I. No. 4.

APRIL, 1879.

THE EMBLEMATIC MOUNDS OF WISCONSIN.

Platycnemism Found among the Mound-builders.

BY J. N. DE HART, M. D.,

Member of the Wisconsin Academy of Sciences, Arts and Letters, and Corresponding
Member of the Wisconsin State Historical Society.

THE Emblematic Mounds found in Wisconsin present such a variety, both in form and number, that some archæologists have been led to infer that they were constructed by a different race from those who built mounds in other parts of the United States; but such eminent authority as the late Dr. Lapham, has fully investigated this subject, and finds a general resemblance, which connects the races in a common origin.

The differences are that instead of the predominant type being round or pyramidal, the mounds, for the most part, consist of imitations on a grand scale of animal objects, which were characteristic of the region, such as the buffalo, deer, bear, fox, wolf, beaver and otter, among the mammals; and of the lizard and turtle among the reptiles; of the eagle and night hawk among the birds; and, in a few instances, of the elephant and other animals now extinct, while many representatives of human form can be distinctly traced in many localities.

The emblematic mounds extend to the eastward as far as Lake Michigan; to the state line, southward; as far north as New London, on the Wolf river, and west as far as the Mississippi river.

Dr. Lapham, in his "Antiquities of Wisconsin," describes a turtle mound, which measures six feet in height, fifty-six feet in length, and has a caudal appendage two hundred and fifty feet long. Another mound, representing a night-hawk, whose expanded wings measure two hundred and forty feet in length, is also referred to by this archæologist.

In Richland county, near the village of Orion, there is a large ancient mound, which represents the human form. Its body measures thirty-nine feet in length, each arm is one hundred and twenty-nine feet long, the head and neck 18 feet, and two lower extremities are each 36 feet in length. It is situated on a low, sandy ridge, which separates the Wisconsin and Eagle rivers; not far from this locality is another mound, representing the human form, whose body measures 50 feet in length, the head and neck 20 feet, and each arm is 60 feet long; the lower extremity of this effigy is wanting.

In Crawford county, there are many mounds which represent the human form, while others are constructed in the form of animals. These mounds are located in a narrow valley, which is walled in with cliffs of lower magnesian limestone, nearly 180 feet thick. No Potsdam sandstone appears in this locality. The mounds are about 3 feet high, and those made in the human form present the body, and chest more elevated than the rest of the body, as though a man was lying on his back.

In Sauk county, a great variety of ancient mounds or earth works, some representing living forms, which differ somewhat from any of those previously described, are found. One of these mounds is made in the form of a man in the act of walking, one foot being partly raised. This effigy is 214 feet long. Another represents an animal with a very long caudal appendage—320 feet, while the body is about 16 feet in length.* The emblematic mounds of Sauk county lie in a valley, through which the Baraboo river flows and empties eastward into the Wisconsin river. The latter is one of the tributaries of the Mississippi. The formation of Sauk county is the Potsdam sandstone. It lies nearly horizontal, with a gentle dip to the south-east. The higher elevations, especially in the south part of the county, are capped with conformable layers of the lower magnesian limestone. Running east and west through the center of the county, are parallel ridges, with an average elevation of 400 to 500 feet, and a base from two to four miles. The distance between these is three or four miles. A north and south valley cuts half way through the eastern end of the southern ridge, and then tends east toward the valley of the Wisconsin.

*Foster's Prehistoric Races.

The animal mounds of Wisconsin are associated with those that are circular in form, but the latter do not attain a conspicuous height, and, with the exception of those at Aztalan, they are not enclosed. Dr. Lapham found nothing to indicate that they were ever erected for defensive purposes.*

Along the northern shore of Lake Mendota, in Dane county, and directly opposite the city of Madison, there are very many emblematic mounds; these represent a bear, deer, squirrel, and other animals, now extinct; while a few of the mounds are made in the form of birds. Some of the latter are constructed on a gigantic scale, and three of them located in close proximity to one another, resemble an eagle with expanded wings. The largest of these three birds has a body 100 feet long, whose expanded wings measure 300 feet on either side of the body, while the tail is 40 feet wide. The head is quite perfectly formed, so that the outline of a beak can be distinctly traced, and measures 15 feet in length.

The mound just described is about 8 feet high at its center. The other two eagle mounds are somewhat smaller than the first one. Near the left wing of the largest eagle lies a mound of the form of a deer, which is the

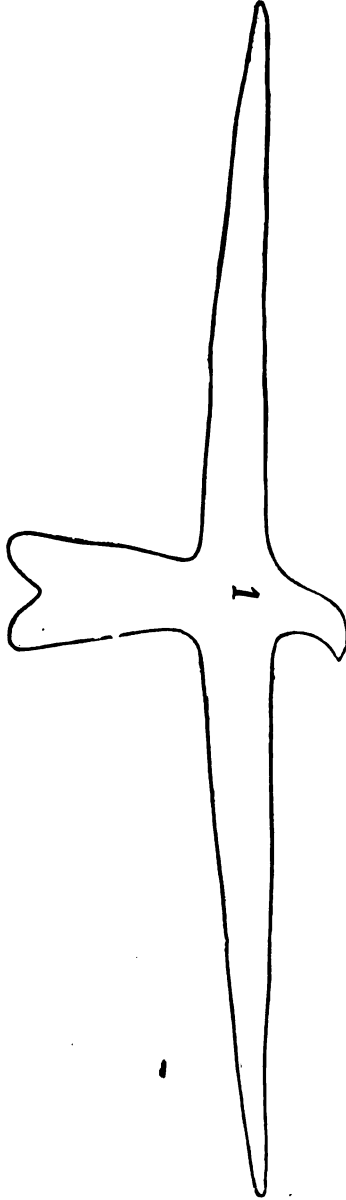


Fig. 1 represents an Eagle. The body is 100 feet long; each wing 300 feet; the tail is 40 feet wide, and the head and neck measure 15 feet.

*Lapham, Antiquities of Wisconsin.

most perfect representation of that animal that has ever been found in any State where the emblematic mounds exist. The body of the deer measures 65 feet, and each extremity is 14 feet long; the head measures 12 feet from the tip of the nose to the origin of the antlers; these latter are each 10 feet long and have a branch extending at right angles from their center.

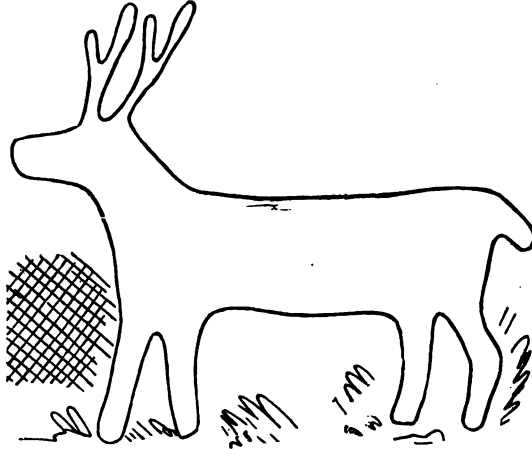


FIG. 2.

Fig. 2 represents a deer, whose body measures 65 feet, each extremity 14 feet, and antlers 10 feet long.

This mound is about three feet high and is covered with a heavy sod. The grass is cut every spring and fall, and every effort is made to preserve it in as perfect condition as it was left by the Mound-builders. Near the left wing of the third eagle mound there is the form of a bear; this mound is about 5 feet high and 59 feet long.

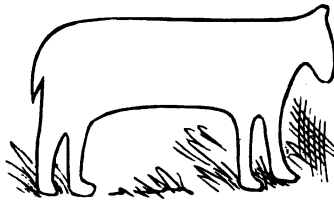


FIG. 3.

Fig. 3 represents a bear. The body measures 59 feet, and each extremity is 14 feet long.

About 150 yards distant from these animal mounds and on sloping ground lies the form of a squirrel.

All of the animal mounds just described are within 150 to 250 yards from the lake, and are composed of a rich, black loam. There is a very heavy turf covering them, which has protected and preserved them.

The most of them are located in a natural forest of heavy oak, maple and hickory. Some of the trees are very large and have, no doubt, withstood the storms of many centuries.

While many animal mounds are found near Lake Mendota, there are others that are circular or pyramidal in form, and a few that are oblong. There are located on the north-eastern shore of this lake eight tumuli which are worthy of our attention. They are from 93 to 96 feet above the water, and on some of them trees are growing, which measure $5\frac{1}{2}$ feet in circumference.

*The largest pyramidal tumulus of this group measures 188 feet in circumference, and is 35 feet from the base to its summit. As it is the most conspicuous mound in this group, from its elevated position, may it not have been used for observation, and as a means of communication by signal or otherwise, with other mounds in the adjacent country? From its summit you have an extended view of the surrounding country several miles in every direction.

This mound was the first one of the series explored, and on the following page, an illustration showing the manner of exploration is given, together with the location of the skeletons, and other relics found therein.

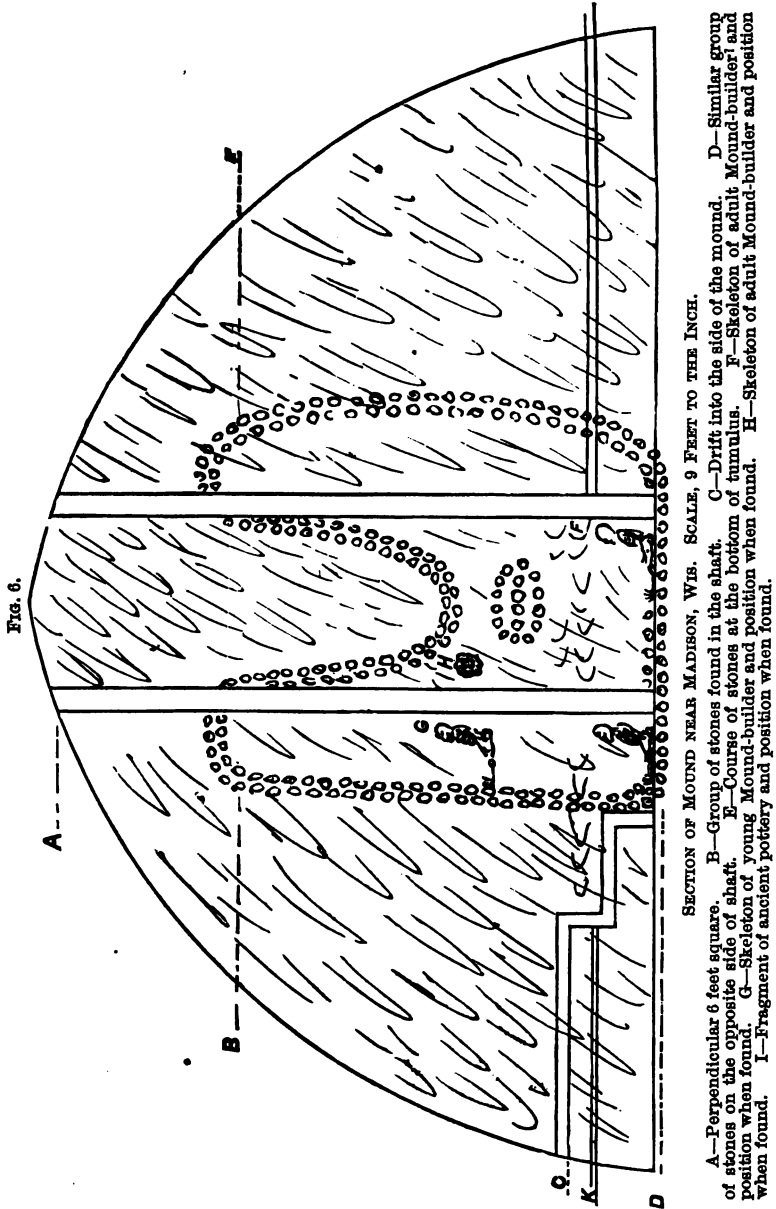
A perpendicular shaft 6 feet square was sunk through the center of the mound, from the apex to the bottom of the tumulus. After removing a heavy turf, about 5 feet of black loam was first removed, when on the western side of the shaft a group of stones, consisting of magnesian limestone, yellow and red sandstone, were found. Some of these stones were flat, while others were irregular in shape, and bore indications of having been obtained from the limestone quarry along the shore of the lake, where portions had been broken off by the action of the water. Below this layer of earth there was a deposit of yellow clay, 4 feet in depth, through which a similar course of stones, arranged in a semi-circular manner, and



FIG. 4.

Fig. 4 represents a squirrel, whose body measures 70 feet, and its tail 325 feet in length.

* I am indebted to Mr. P. P. Schotzka for this survey.



passing off to the opposite side of the shaft, was discovered. Another layer of black loam lay underneath the clay, which was about $5\frac{1}{2}$ feet in depth. After removing 2 feet of this

deposit, ashes, charcoal and decayed wood with small pieces of flint, were found. A few stones were removed directly underneath these, and the earth on which they lay was so hard and dry that it was with great difficulty that it was broken up by means of sharp picks; it had the appearance of having been baked. Another foot of this loam was removed, when the skeleton of an adult Mound-builder was discovered in a sitting posture, at the south-eastern corner of the shaft; several fragments of the cranium, vertebræ, the body of the inferior maxillary, with the alveolar process quite complete, ribs, clavicle, portions of the long bones of the extremities, were found.

The bones of the cranium were so fragmentary that it was found impossible to make a complete calvarium. The vertebræ were very large, and indicative of having belonged to a race larger than the Indian, and the bones of the lower extremities, the shafts of two tibiæ presented a remarkable flatness, which peculiarity is termed *Platycnemism*. Prof. Wyman, who, in alluding to this feature of the tibiæ, of the Mound-builders, says: "that the shafts of the tibiæ of nearly fifty skeletons found in ancient mounds in the south-west, more than one-third presented this platycnemic character to the extent that the transverse did not exceed 0.60 of the fore and aft diameter. He also draws attention to certain resemblances in this bone to the same bone in the ape.

Broca mentions one instance in that of an old Frenchman in which the shaft of his tibiæ presented the same measurements as that just mentioned, while some writers and explorers of mounds in this country, claim to have found tibiæ in which the transverse diameter of the shaft, in one instance, measured 0.40, and in another 0.42 of an inch of the antero-posterior diameters. In comparing these specimens with those found in this mound near Lake Mendota, I find considerable difference in the measurements, showing a variance of about 0.08 of an inch less than those mentioned by Profs. Wyman and Broca, while they indicate an increase of 0.12 and 0.14 of an inch above those mentioned by other archæologists in this country. The two specimens which I found, measured 0.52 and 0.54 of an inch respectively, in comparing their transverse with the antero-posterior diameters. That those tibiae which show the greatest flatness, should be found in the ancient mounds in this country, is a remarkable fact. On examining the reports of several scientific institutions, I found a comparative table, which contains a few of the most marked cases of *Platycnemism*, which have been discovered either in Europe or in this country. In comparing the transverse and antero-posterior diameter of those found in Europe, the greatest

degree of flatness of these tibiae is only 0.60 of an inch, while those found in this country indicate 0.48 of an inch, thus making a difference of 0.12 of an inch in favor of our Mound-builders. As this Platycnemic character has been recognized in the skeletons found in many ancient mounds in Wales and other parts of Europe, as well as in this country, might it not therefore be regarded as a characteristic feature in the osteology of the Mound-builders? Prof. Busk, in considering this question, says: "that as to the ethnological value of this Platycnemicism, we are as yet very much in the dark, though it may undoubtedly be considered a character betokening remote antiquity."

Of the bones of the upper extremity, that were found, that of the humerus presented a feature which has been recognized at times in the skeletons before discovered in other mounds. There was a perforation through the inferior extremity, as shown in the accompanying illustration. In nearly every instance where the humerus has been found in ancient mounds, this perforation has been found to exist, and hence may it not be regarded as a natural communication existing between the olecranon depression on the one side and the coronal and radial depressions of the opposite side of the humerus of the Mound-builders? This perforation is found to exist in the chimpanzee, ape and other animals that go about on all fours.

As shown in the accompanying illustration, the specimen found in this mound presents, on its anterior surface, a perforation, which is surrounded by a gradually receding margin, which is not so large as that surrounding the perforation on the opposite or posterior surface of the same bone. In the human subject, the anterior surface of the inferior extremity of the humerus presents an elevated margin which separates the coronal from the radial depressions; whereas, in the humerus found in this mound the elevated margin was entirely absent between the above mentioned depressions. While anatomists claim to find a very small perforation in about one humerus out of every thousand that are dissected, yet the perforations that have been thus found in the human humerus, do not involve both the coronal and radial depressions, but usually that of the coronal and seldom that of the radial depression. I can find no record of an anatomist who has found both depressions connecting with a corresponding perforation of the opposite side. This bone is no doubt of great antiquity, and was very much decayed, the superior extremity not having been found.

In no case did I find any of the long bones of the upper or lower extremities wholly perfect, but all of them were broken near the centre of the shaft, the other extremity not being found. It is hardly probable that the disappearance of one extremity is due entirely to decay, in every instance, but it may point to some superstitious rite or custom, connected with the sepulture of the dead among the Mound-builders.

This was the only humerus found with either extremity nearly perfect.

Beneath this skeleton there was a layer of earth and then a course of stones, similar to those previously described, resting on a bed of yellow clay. As there was no evidence that this bed of clay had ever been placed there, but was a natural deposit, it being one and one-half feet below the level of the surface, it was not thought advisable to sink the shaft any deeper.

As shown in Fig. 6, a drift was then made into the side of this mound, three feet above the level of the surface, and about eight feet wide.

After the removal of considerable earth, a similar course of stones was found, which could be traced to the group of stones on the west side of the shaft. These were removed and large quantities of ashes, charcoal, decayed wood and pieces of flint were found; these lay upon a very hard and apparently baked crust of clay, underneath which there was a cavity about 6 feet long by 2 feet wide and $1\frac{1}{2}$ feet in depth. Nothing was found in this apparent grave, except a large boulder of sandstone, which had been hollowed out in the centre, and represented half a sphere. This broke into several fragments after



FIG. 7.

Fig. 7 represents the right humerus, with a perforation.

its removal, which were so very irregular as to prevent their being put together again.

On continuing the drift towards the center of this tumulus, and when near the shaft, the skeleton of a young Mound-builder was discovered in a sitting position. He was probably not more than six years of age, judging from the progress of dentition and the condition of the bones found. A few fragments of the cranium, several vertebræ, portions of the long bones of the extremities, and the superior and inferior maxillary were removed from the earth. Several teeth were still in the alveolar process of the superior maxillary; a number of flints, shell beads, two large teeth (canine) of some animal, and small flint arrow heads were found in close proximity.

Quite near these remains three pieces of ancient pottery were discovered; the largest piece measuring $4\frac{1}{2} \times 5\frac{1}{4}$ inches and $\frac{1}{4}$ of an inch in thickness. This was quite smooth on its internal surface, and marked externally by raised lines running obliquely across it; such as are usually seen upon ancient pottery found in mounds.

A stone hammer, of which the accompanying illustration is a fac-simile, was also found in the mound. Fig. 8.

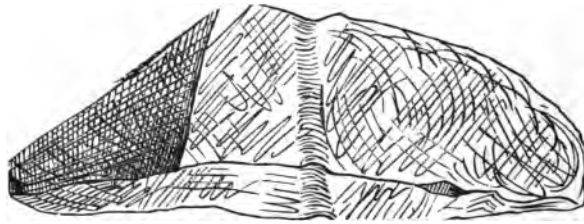
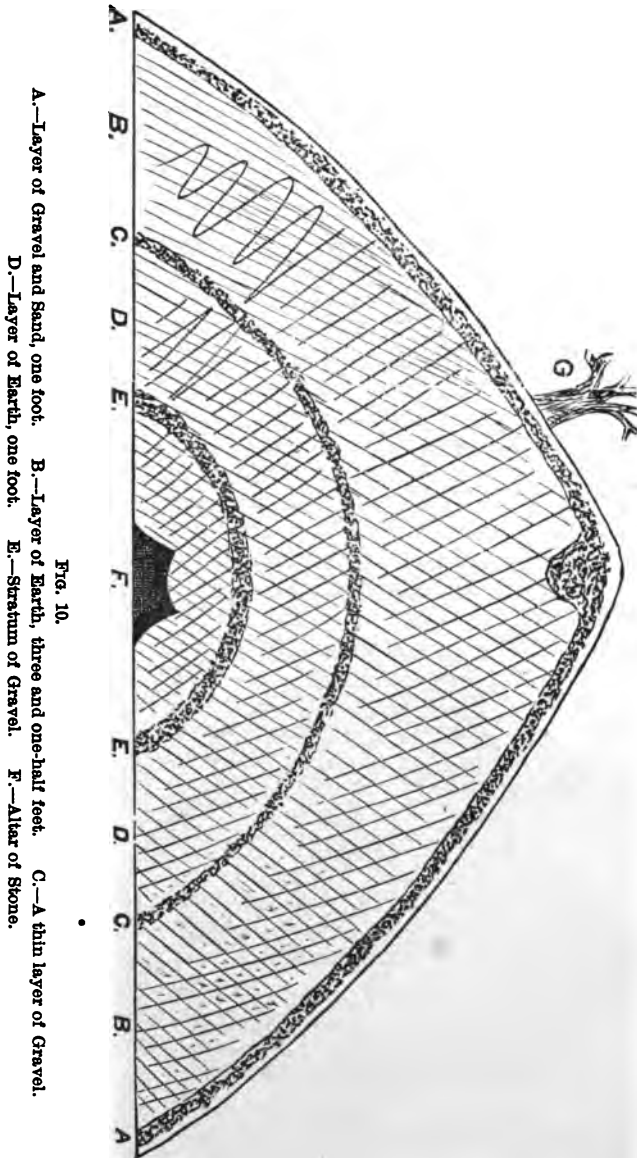


FIG. 8.

The drift was then carried forward as far as the shaft, and then downwards to the natural bed of yellow clay. Just before reaching the shaft and near the bottom of the tumulus, the skeleton of another adult Mound-builder was found, also in a sitting posture. Several fragments of the cranium, pieces of the shafts of two thigh bones, ribs, bones of the upper extremity and vertebræ were exhumed. After removing the earth underneath this skeleton several stones were removed, which bore evidences of having been exposed to fire; ashes, charcoal and decaying wood in quite large pieces were also found. On removing the pillar of earth formed by the junction of the drift with the perpendicular shaft, a flat disc of stone, $\frac{1}{4}$ of an inch in thickness and 4 inches in diameter was discovered. Similar stones were found by Squier and Davis, and were called by them discoidal stones. They have been found in



mounds in other parts of the North-west, and are supposed to have been used by the Mound-builders in playing games.

Another mound, circular in form, and located a few yards from mound No. 1, was then examined. This mound was about five feet in height and 125 feet in circumference. A

drift was made into the side of the mound on a level with the surrounding surface and about six feet in width. A section of this mound, showing its general construction is given above. *Fig. 10.*

After removing the surface, a course of gravel was found, one foot in depth, and on the summit a layer of sand dipping downwards into the layer beneath it. Following this was a deposit of black loam three feet deep, and underneath this was another layer of gravel, and then a deposit of earth. A thin stratum of gravel was then removed, when ashes, charcoal and flints were found lying upon an altar of stones. The latter rested upon a bed of yellow clay. This altar was about one and a half feet high, three and a half feet in length, and two feet in width. The excavation was continued downward to the depth of three and a half feet below the surrounding surface, but nothing further was found.

Two feet from the summit of this mound, there was a tree growing which measured five feet in circumference. In the side of this tree and fastened to the bark, was a stone pestle which had evidently been carried upward through the mound, during the growth of this tree. This pestle was composed of alternate layers of granite and quartz. It measured six by eight inches. *Fig. 11* is an illustration of this stone pestle.



FIG. 11.

In regard to the age of these mounds, the best authorities on this subject variously estimate them from 1000 to 2000 years. Some archæologists have attempted to approximate the age of them by examining the trees growing thereon; but as these indicate an age from 800 to 1000 years, the question would naturally arise as to the time which may have elapsed

between the building of the mounds and the planting of the trees; or if the latter were of natural growth, as to the time of their first coming through the ground.

Dr. Hildreth saw a tree that was 800 years of age, that grew upon an ancient mound at Marietta, Ohio. Squier and Davis saw trees that were 600 years old on the tumuli near Chillicothe, Ohio. While on the upper Missouri many trees growing upon these ancient land marks, have been felled which indicate an age above 600 years. In Michigan, trees whose ages range from 800 to 1000 years have been found in large numbers on these mounds.

Prof. Lapham, who investigated these monuments of a pre-historic race in Wisconsin, more fully than any other archæologist, made the following observation in regard to the growth of forests on the mounds in this state:—"When the tree decays, and is blown down, the uprooted soil forms a knob or hillock, such as are always seen in old forests. The very aged trees, 600 or more years old, found on some mounds are then probably the survivors of the original forest-growth on the mounds, and had obtained respectable maturity, while other mounds are still bare. No long interval would therefore elapse after the abandonment of ancient tumuli, before forest trees would spring up."*

As no trees have been felled in the forests, where the mounds that I have described, are located, it is not possible to even approximate their age, but there are many large trees growing near to and upon them, which are very ancient, and a few of them measure from 12 to 14 feet in circumference.

The question has no doubt occurred to many if not to all archæologists and antiquarians, who have examined these ancient landmarks, as to who the people were, or what race built them. That the race of Mound-builders must have been a numerous tribe or people is very generally admitted by those who have investigated this subject. We find their ancient works along the gulf coast, and from thence up the Atlantic seaboard as far as Virginia. Following the Mississippi and its eastern tributary, the Ohio river, they are found to be very numerous, and some of them are erected on a grand scale throughout Central Ohio, and not a few in West Virginia. In the vicinity of the inland lakes and numerous rivers of this State they are quite generally found. The ancient works at Aztalan, on Rock river, have received as much attention from archæologists as have those near Marietta, Ohio.

*Lapham's Antiquities of Wisconsin.

At Aztalan, there is an enclosure of earth extending around three sides of an irregular parallelogram, the west branch of Rock river forming the fourth boundary on the east. The space thus enclosed contains $17\frac{2}{3}$ acres. The ridge or wall is 22 feet wide, and from 1 to 5 feet in height. The wall of earth is enlarged on the outside, at irregular distances, by mounds of the same material. These are called buttresses or bastions, but it is quite evident that they were not designed for the purpose indicated by these terms. They are about 40 feet in diameter, and from 2 to 5 feet in height. The highest point in the interior of these works, according to the authority of Prof. Lapham, is at the southwest corner, and is occupied by a square truncated mound, which presents the appearance of a pyramid, rising by successive steps like the gigantic structures of Mexico. A similar mound occupies the north-west angle of this enclosure, 60×65 feet on the top, with the remains of a graded way at the south-east corner, and another mound also is found near the river bank.*

This race must have differed, both in character and mode of government from the Indian. The construction of these ancient earthworks and tumuli required an amount of labor that the Indian would not have submitted to. The Winnebagoes, who were the last Indian occupants of the ancient works at Aztalan, in Jefferson county, would always answer in the negative, by a significant shake of the head, when asked if they knew anything of the tribe or race who erected them. Their dwellings have disappeared, leaving no trace except the remains of what are supposed to have been their foundations. The flat mounds with graded ascent at Marietta, Ohio, were probably the foundations of ancient temples, and possibly the enclosure at Aztalan held similar structures.

The aborigines of America may therefore be considered, at least for the purposes of history and archæology, as an autochthonous race; and whatever civilization appeared before the discovery in 1492, was indigenous civilization. The Mound-builders, therefore, were natives of the soil and whatever advancement was made, was of their own invention, or was imparted to them by neighboring tribes. Nott and Gliddon, in their work, "The Indigenous Races of the Earth," refer to the Mound-builders, as a race belonging to a people far higher in civilization than the hunting tribes of America. They call them "Mound-builders" from the regular fortifications which they have erected in several Western and Southern States. The Natchez destroyed by the French in Louisiana in the last century, seem to have belonged to them.

* Lapham's Antiquities of Wisconsin.

While Lewis and Clark, and afterwards, Catlin, found in the Northwest, on the upper Missouri, three small, neighboring tribes, one of whom—the Mandans—had no affiliation with any other known family. They lived in huts which were very neat in appearance and had separate apartments for lodgings. They were a mere handful of a tribe and, while they acquired the language of other tribes, none learned theirs. They made a great variety of pottery and manufactured beads which were highly prized.



FIG. 12.

Fig. 12 represents cast of head found by Squier.

Catlin suggests that they are the remaining tribe or descendants of the Mound-builders which have been driven from the valleys of the Ohio and Mississippi.

Among the many relics of this ancient race, which were found by Squier during his explorations of the valley of the Mississippi, was a most characteristic head, made of red pipe clay, the workmanship of these unknown builders, which exhibits the peculiar Indian features.

He says further, "that the Mound-builders were American Indians in type, that time has not changed the type of this indigenous group of races; and that the Mound-builders were probably acquainted with no other race but themselves. In every way proving the views of the author of *Crania Americana*."

As to what became of this Prehistoric race of Mound-builders, but little can be said beyond conjecture. The numerous temples of Mexico and Central America are said to be as ancient as the mounds found in various parts of the United States.

These two localities may have been the birth-place and centre of original American civilization, or the Mound-builders may have been the original occupants of the Mississippi valley, and themselves given the civilization to Mexico, but in reference to these questions no decision can yet be given, and every one is left to his own conjecture.

SHELL BEDS OF CLATSOP BEACH, OREGON. •

BY H. B. CLARKE.

The coast of the Pacific ocean, some distance below the mouth of the Columbia and above, even to the colder latitudes, show, in its shell mounds or beds, evidences of a dense population that must have long ago lived and thrived on the bounteous sea-food that the ocean provides. Up the little streams and inlets may these beds also be found, but not of the immense proportions found on this ocean beach.

Recently, while swimming at the sea-side house at Clatsop, my attention was drawn to the material with which the roads were being macadamized; shells of oyster and clam predominated, but the rather frequent sight of human bones and skulls excited my curiosity. Following the wagons, I found my way to the pits from which this dump was taken. The excavation showed a depth from five to six feet of this debris, and the original dirt strata had not yet been reached.

I stood by the wall of this seemingly unlimited bed, and with a stick dug into the bank, finding shells of various kinds, some of which are not now found on this coast, all bearing evidences of having been used for food, sometimes calcined; also the bones and vertebræ of fish, bones of birds, deer, and other animals, and among them the bones of the human body, sometimes the tiny rib of a little child, and sometimes the arm bones or the shoulder blade of an adult; skulls, too, were not infrequent. The horrible suspicion of cannibalism suggested itself to my mind. These remains were scattered indiscriminately, just as one might imagine the garbage of a house might be thrown day by day and so accumulate in a heap. While earth and stones were mixed with the bones. Of the length of this bed I have no knowledge, and can only imagine the age. It was in shore half a mile and must have, in ancient times, been the beach proper.

Ages have passed since these wild people encamped by the booming waves, for immense old Firs, five and six feet in diameter, are growing over the prostrate giant trees that preceded them. I saw no implements of any sort nor did I hear of any being found in these beds, though they might be easily overlooked, as no one had ever before exhibited any interest or curiosity in the matter.

I have been told that similar beds are found on the Alaska coast. Remains of ancient junks are said to be found there. Certainly the almond-eye may be traced in the physiognomy of the Indians at this day.

A COMPARISON BETWEEN THE ARCHÆOLOGY OF EUROPE AND AMERICA.

BY REV. STEPHEN D. PEET.

Read before the American Association for the Advancement of Science, at the Session held at Buffalo, Aug. 22, 1879.

The science of archæology in America is in its infancy.

Scarce thirty years have passed since the first general survey of the prehistoric works of the west was made, and not forty years since the very first work on the subject was published.

The science has indeed been making great advances, and within the last year or two an unusual interest has been awakened. The interest taken in the natural sciences has already affected this subject, and the very discussion of the science of man has called attention to the prehistoric man. We may in fact say, that this is now the rising science. The very increase of population, and the spread of society in this country have made the traces of the former races more familiar to the people, and the constant discovery of the ruins of ancient empires in the Eastern lands has deepened the interest. A wide field of study has indeed been opened. The curiosity which was at first awakened by the novelty of the subject has changed, but the investigation is more thorough; even if the element of the marvellous has been dispelled, the more reliable spirit of research has taken its place. The fascination of the study is great. It has seized many a young beginner, and holds all whom it seizes. Whoever is drawn into this study finds himself in a charmed circle. As if in the mystic hunting grounds of the shadowy races, he cannot refrain from the favorite pursuit.

The inquiry, however, arises, are there realities in these shadows of the past? Can the substantial be seen and a certain foundation be found when everything is so unformed? The student of American antiquities wanders through a silent labyrinth, and often wonders if he shall ever catch the clue to its intricate depths, or find a system amid the multiplicity of discoveries.

European archæologists have made much more advancement than we in America. They have introduced data and clues for this science by which many are guided, but the question is, will these clues do for us? will the data of the science

apply on this side of the water? A comparison of the two fields is important. This comparison it is now proposed to institute.

I. In reference to the relics.

It should be said, however, that on this subject there are peculiar difficulties on the American continent. While it is acknowledged that the relics of the prehistoric races abound here in great numbers, and that the American student has remarkable advantages for collecting and examining these, yet it is true that owing to their very multiplicity and variety it is no easy task to properly understand them.

The diversity of the relics in the various locations when found, and the impossibility of separating or identifying them with the races who used them, render the classification difficult.

The continent also presents such a wide field, and the various relics are scattered over such an extent of territory that no one can tell whether they belong to cotemporaneous races or which of them belonged to different ages. Investigations are in that stage that no one locality has been thoroughly searched, and for this reason the different strata of human existence has not been learned.

The superficial exploring has revealed a wonderful variety, but it is a broad field and the prehistoric age is very recent. The relics of the historic aborigines are mingled, too, with the prehistoric, and cannot be separated by any distinctive marks. There are even living races to-day in America which may be compared to the very earliest, most ancient of the prehistoric in Europe. The stone age is still in existence on the continent, and even the bone implements found by the cave hunters are discovered to be similar to those in the hands of the Esquimaux. As an illustration of the European system, America furnishes the living specimens, and the filling up of the outlines may here be accomplished. The ruined structures of the older continent may, indeed, be re-constructed according to our real models, and if one would ascertain what was the state of society in that prehistoric period he has only to visit the wigwams of the west or the ice huts of the north to find these early ages come back again.

But as to the ages which, in Europe, are supposed to have existed, no collection of relics thus far has enabled us to identify them, and the *digging* which might reveal them has not yet been accomplished. The comparison, then, must be made according to the superficial area, rather than the depth of excavation.

The same work which, in Troy, has been done by running a section through the massive earth heaps, and in Europe by

excavation in caves and gravel beds or shell-heaps, has been done here by traveling over the whole continent. In fact, the work has been done by traveling rather than by digging.

It is gratifying to find the classification of the Europeans so far confirmed. The stages of ethnical culture have been clearly marked, if the ages have not been recognized, and the same division in space here prevails which there has been assigned to time. The classification is according to the horizontal position, but not to the vertical depth. As in geology so in archæology the epochs are known by the cropping out of the tokens upon the surface.

From the north to the south there are discovered many divisions of the races, but the division is one of climate and scenery as much as it is one of the period or stage, and for this reason America may be the better field. We have not only the relics *in situ*, with the matrix before us, but we have them in the hands of their possessors, amid the very physical surroundings, soil and climate, to reveal what once existed in Europe. We do not go into the depths of the earth to find the variety of our prehistoric human fauna, but we go over the surface.

The same elements of ice fields and glaciers ascribed to the earliest age of Europe are here found and are associated with the same relics. The wild hunter life ascribed to a certain period there, and betokened by shell-heaps and their relics, is still existing with the same relics. The nomadic condition with the later and more polished weapons and instruments; the agricultural state, with the tools for husbandry, and the fruits and seeds, as well as the lacustrine villages once existing in Europe, have been known and seen on this very soil where we stand, but there is this difference: the scenes are occupied and the relics themselves are still in use. Geographically considered, we have all the ages on this continent and the living illustration of them all.

The question then arises in reference to relics and their locality, whether the classification of Europeans can be identified in America, and we answer that in the main it can.

Whether the classification is indicative of ages even in Europe, is for others to determine, but certainly the general division of relics into the stone, bronze and iron we most heartily accept.

As to the subdivisions of the one into the Neolithic and Palæolithic, and the introduction of another age earlier than the so-called stone age, we may say that these as terms may be accepted, as they will assist us in arranging and classifying. More than this, on this continent we find a subdivision of the bronze implements similar to that found by Schlieman in Troy,

namely, the bronze and the copper, and as a variety we might say that we have the copper-age especially prominent.

These relics are, however, only indicative in each locality of stages of culture rather than those of periods of time, and according to these tests we classify them.

There is, however, one difficulty. There are localities where the relics are found mingled. The rude stone implements, the polished stone, and the copper are indiscriminately mixed in one heap, even as the different weapons found in the Kitchen-middens of Europe; but there are no traces of animals or even of men so associated as to identify their ages. All that we can do is to classify according to the variety, and leave the future development of the science to mark both the ethnic signs and the historic periods.

Wave after wave of population has followed in such quick succession, even while the same climate and soil existed, that we can see no dividing lines between the different races. There are no strata to show the succession, but the ripple marks have to be studied in their minute lines and shades.

It requires less labor but much more discernment to pick up our relics. The delicate discrimination becomes almost intuitive, and is attained only after long experience and very extensive and comprehensive information. There are those among the savage tribes who discern the tribal lines in the weapons and implements which they discover, and even in the foot-prints in the sand. Much of this sagacity of the wild Indian needs to be attained before we can properly classify or identify our relics, and yet the classification of the European and American may be alike.

II. We turn, then, to the structures, and institute the comparison between the European and American archæology again, in the classification of the works and remains, as well as the relics.

It may be observed that a generic term is wanting. By remains we mean all that may be left as signs of human habitation and activity, aside from the relics already considered. There are in America many such; the *debris* of camps, the shell heaps by the sea, the fire beds beside the rivers, and the bone heaps and burying places are certainly remains, but there are also caches with remains of food, tumuli erected as burial places, mounds built for residence and protection, and for worship; there are also walls and pyramids, and enclosures of earth and wood and stone; the remains of villages and communistic houses, the ruins of palaces and altars and temples, lake dwellings and ponds, and excavations, wells and walls, and almost every conceivable sign of human exist-

ence, which must all be classified under some generic term, and we have used the word remains as that term.

The distinction between remains and structures must, indeed, be recognized, but the first term will be understood to embrace everything under the generic head, and to these "Remains of lost Empires" we would call attention.

The European system, so far as it is given, recognizes this same distinction between relics and remains, even if the term is not used. One term may be introduced to express this department of the science, and that is the palæography as distinguished from the archæology of the two continents. The comparison is now taken from the "cabinet" to the "field." The "finds" are to be observed rather than the "collections," and the prehistoric habitations are to be sought rather than the implements and weapons and utensils.

Now, in regard to this department of the science, the American savant may accept the classification given so far as there is any, but he may also be permitted to establish a system of his own if he chooses. Recognizing the distinction of the various classes of works, such as the cave contents, mound structures, dolmens, cromlechs and cairns, kitchenmiddens and shell heaps, palaffittes or lacustrine villages, we desire to call attention to a comparison of the two continents. Many of these are found on this continent, and one work with the American student is to identify them with those found in the older continent. To compare stone circles and coffins and other structures with the dolmens and cromlechs of Europe, recognizing the fact that emblematic mounds are also found among the Mendip Hills as well as in Wisconsin, to trace the similarity of mounds on the two continents, to search into the shell-heaps, and compare these with the kitchenmiddens of Denmark and Sweden, to ransack the caves and examine their contents, and to look to the various habitations of our country, and compare them with the structures of the ancient races in the old world, and to studiously observe everything that may be left on the surface or in the soil or beneath the soil, and so either introduce the European system or to establish one of our own, is now the work of American archæologists. The task of identifying these different remains with the separate races may then be undertaken, and the periods to which each vestige belong may afterwards be pointed out, and the different ages recognized in the remains as well as in the relics.

Investigations have, however, not yet been carried far enough to accomplish this in America, and we must be excused

if some degree of skepticism arises as to the certainty of this classification by the European system.

In a general way we might suppose an analogy, and say that our lake habitations in Mexico corresponded to the lacustrine villages of Switzerland; our shell-heaps on the sea-coast of the Atlantic and Pacific, in Florida and New England, California and Oregon, belonged to the same order with the refuse heaps of the coasts of Denmark; our burial places scattered everywhere have also a resemblance to the burial mounds of Europe, and our circles, enclosures and earthworks need only to be understood to show their resemblances; also our fire-beds and camp debris are similar to the remains of the cave-dwellers, and the bone huts and ice houses of the Esquimaux, correspond with the remains of the lowest strata in the cave dwellings; but so far as classifying them according to the succession in time, they are to be placed with the relics of America, subject to investigation.

The bronze is, indeed, associated with the works of Mexico; the copper with the Mound-builders of the Ohio valley; the stone, rude and polished, is also associated with the fire beds and shell beds and bone heaps of this continent; the bone implement is found under the rude structures of the Esquimaux. So far, then, the European system is confirmed. With the addition of the copper among the Mound-builders, and the removal of the distinction between the neolithic and the palæolithic, we may, indeed, recognize the European system on this continent. Under a general classification, the two fields are similar. Whether the distinction between long barrows and short barrows, and their modes of burial shall be made; whether the various stone structures, such as the dolmens and cromlechs shall yet be discovered, we may certainly see a resemblance at first in the outlines, and so make the archæology of Europe serve us in America. The present stage of archæology demands that we take the researches of our fellow-laborers and apply the data given at first, until we have fully established a system of our own.

It should be said here that we have in this country peculiar advantages for the work of identifying the structures with their inhabitants, and especially for drawing the parallel between the relics, the remains and the races. To be sure as to identifying any of our mounds with the race who built them, there is now great uncertainty, and so, too, as to identifying the modes of burial with the different races, for the contents of our mounds, earthworks and other structures have been too little studied to be yet properly understood. It is only in observing the surface, and arranging the numer-

ous objects presented there to our notice, that we carry on the science; after that, the careful study of everything connected with the "contents" may be better understood.

We are able to classify our earth structures according to their uses, under the general divisions of the military, agricultural and village earthworks; and the mounds again into tumuli, altars, pyramid, sacrificial and temple, and the enclosures into the military, civil and sacred. We are also able to distinguish the stone structures according to their uses—the walls and wells, rock dwellings, and the ruins of pueblos; the pyramids and palaces of the ancient Mexicans, and other stone works, and by these, connected with their locality, we recognize the races that inhabited them.

We are also able to arrange the few wooden structures according to their uses, and have our palisades and stockades, and village enclosures, and those designed for the chase, where large numbers of animals are driven into a corral and earth pit, and so caught and slaughtered. We have also our shell heaps, which again have been classed into fire-beds, shell heaps, and mounds made of shells. So that really a system has been growing upon us, based to be sure, upon a superficial observation, and yet a system which certainly has many points of resemblance to the European classification. We are brought to it by the necessity of the case, and with all due recognition of our indebtedness to the older and more advanced students, we receive this as the basis for the American departments.

In some respects, however, the systems differ. The material of which the remains are composed has never yet been made a test of ethnic affinity nor a basis of classification, but on the American continent this is a test.

The same distinction which prevails in the weapons and utensils of the prehistoric races prevails in their structures and remains. They are to be distinguished by the material of which they are made as well as by their shapes and uses.

As a criterion by which we judge of the races, their social status, and ethnic condition, we maintain that it is better than any other classification. In America, the earthwork, the stone structure, the shell heap, the wooden palisade, and the bone hut are as distinctive as are the bronze and copper, stone and bone implements. Therefore, as a basis of classification we may well regard the material of these structures, and then look to their uses and shapes for subdivisions of the same system.

This mode of classifying not only properly describes the status, but in a manner represents the material resources of

the country and shows in itself the correspondence between the mechanical skill and the natural resources at hand.

The stone palace at the south, the brick and adobe structure in the south-west, the earthwork scattered over the central plains, the wood palisade in the forests, the bark huts in the north, and the rude hovel made of walrus bones and ice of the hyperborean regions, are each one illustrative of the social condition and suggestive of the landscape as well as the resources of each place. Associating these with the corresponding implement, and identifying the food and habit of life with each structure, we have as complete a description of the actual condition of the prehistoric races as is possible for any classification to give.

The wood structure may have its varieties but it designates the hunter or the nomadic state. The earthwork may also be subdivided to describe the defensive, the political, or the religious uses but it is suggestive of an agricultural race. The stone may also consist of pyramids and palaces, or of the ruder defenses and walls and works of different localities, but in the main this material is distinctive of the village life; and so throughout the classification proves a very suggestive one.

For the grand divisions of the continent into the various social conditions and ethnical states, nothing can be better or more expressive.

III. We turn next to a consideration of the "ages."

It should be said that on this point there is much uncertainty. There are relics to be sure, discovered on this continent which some have thought to identify both in time and culture with different prehistoric periods, but this is the great work before us. It is not, however, the depth at which these relics are discovered, or the remains with which they are associated which determines the question. No investigations in this country have discovered the prehistoric periods by the depth of deposit. Such rude stone implements as have been found by Dr. C. C. Abbott in the gravel beds of New Jersey, have not, in our opinion, been sufficiently studied in their geological or archæological character to be conclusive evidence that we have ever had what the Europeans call the palæolithic age. Certainly the depth of their deposit is not a proof as to their character. Many relics as rude and unformed as these, are found upon the surface in many localities. Nor have the animal remains been numerous enough for us to identify the prehistoric periods. The bones of the mammoth and elephant have been indeed discovered associated with the relics, but the peat swamp of Missouri and the gravel bed of Virginia gave

no other indications of the age in which these bones were deposited. These prehistoric animals are found associated with weapons which are still in the hands of western aborigines, and traditions are still extant of the monsters which startled the wild Indian by their size, but which disappeared before their hunters. If these creatures are found imbedded in soil with human remains beneath them, yet these are not marks of their antiquity, for the relics may have belonged to an age as recent, even later than the animals themselves. Reindeer and mammoth have been discovered, but an abundant opportunity for a late survival is given by so great a continent. The implements found in connection with them have no marks which designate their age. Even the soil or gravel in which the relics lie, are not always indicative of it. A stone may fall into a crevice, sink into peat bogs or be covered in a flood and be found in a delta or bed of a river, or in a certain rock formation, and yet be modern in its origin.

Discoveries of this kind such as Sir Charles Lyell brought out in his work on the antiquity of man are not reliable. A bone from the burying ground at Natchez, the different rafts or logs which had formed a jam in New Orleans, or the flood of the Mississippi which suddenly changes its channel, will account for all these without inserting an archipelago in the North Pacific for the races to emigrate on.

If we are to form any definite classification of the relics according to the prehistoric ages, it will be after much more thorough and exhaustive investigation, and the comparison of many more facts than are at present at our disposal.

The modes of burial have also been studied with this point in view, and in Europe their classification are supposed to have been according to the ages. In America, however, no such classification has obtained; possibly this is owing to the limited observation, as an approximation to the European system has been arrived at, and we may find this a better test than all the rest alluded to above. The distinguished Swede, Nilsson, has identified the different kinds of burial with the different ages. The skeletons found with bones thrown together are peculiar to the Palæolithic; the burial in a horizontal posture peculiar to the Neolithic; the burning of the body and the depositing of cinerary urns were characteristic of the bronze age; but thus far in America there seems to be an indiscriminate mingling of all the modes in the various localities, and the system is yet undetermined. All these modes of burial are discovered, and another, still more common, is the promiscuous burial—great bone heaps; but the relics which are found with these remains have never been

classified so as to associate them properly or intelligently. The whole work is before us. If the European system has been approximately applied, there is still great uncertainty attending the ages, even with all these tests before us in the continent.

Another test employed by Europeans for determining the age to which a relic belongs, is found in the kinds of food which may have been discovered along with it, but in this country this test is also uncertain. In the localities adapted for raising the varieties of food the two are associated, but in that case they are no evidences of the period. Ordinarily the period is the latest one, and no succession of races has been determined by it. If there are traces of food in any locality different from that which belonged to it, this food may have been carried from other places and would not prove a different climate in the time of its production, so that even this test has not been effective.

We may say, then, of all these various tests by which the European system should be applied, scarcely one has been sufficiently tried to enable us to know whether the ages, as there associated with the relics, can here be discovered. With the single exception of the form of the structure from which a relic may be taken, there is no test in America by which archæologists can identify the periods.

The best evidence given of the age is the locality and the general surroundings, compared with the ethnic occupation in the historic period. There is no place where the succession of races has been discovered so as to identify the relics with them, but the separate localities present their relics, and in the localities are identified with different contemporaneous races.

Generally, however, if the single locality is considered and the evidences of their ages there sought, we find the case exactly reversed from that which is found in Europe. Thus, iron and bronze and copper and polished stone and rude stone and bone are all found belonging to separate races, but to a contemporaneous period; yet when they are proved to have succeeded one another, they succeeded in the reverse order from that which is supposed to have been followed in Europe, that is, the ruder follows the more cultivated. The red Indian displaces the Mound-builder; the military succeeded the peaceful, the hunter-class succeeded the agricultural; and the wild roving tribes the village-dwellers. Such is the case whenever there has been a succession found in any one place, and such, too, is proved by the various evidences that different races occupied the separate localities.

The survival of the races was in the reverse order of their culture. The relics last used were by far the rudest, and the historic races which are the survivors of the prehistoric, are the wilder of the two; the lower status remaining while the higher has passed away. The European classification, then, if used on this continent to designate time or ages, must be confined to the contemporaneous races or its order must be reversed. According to very late investigations, this change in the system may also need to be introduced into Europe. In that case the ethnic traits and the social status may, on both sides of the water, be traced in the relics, while the question of their periodical succession or chronological order is left undetermined. The order has been reversed in the ruins of Troy, the succession of races and relics becoming more and more rude, and the culture declining as the ages went by, and it may be that, even in the different parts of Europe, the migration of the races shall be marked by the decline of the higher to a lower culture.

In England and parts of France the cave dwellers left the traces of the advancing series, but in Troy and other parts of Europe there are signs of receding waves, and so we have on both continents the same system, each series of relics indicative of the same status and ethnic existence.

With the latter view the system is wonderfully adapted to the American continent and may be regarded as a fundamental one for the whole science in every part of the world.

As descriptive of the different shades of social existence, and the different grades of ethnical character, nothing is better than this classification according to the material of the weapons used. Measuring on the surface, we find all these different kinds of weapons strikingly associated with the modes of life and identified with the climate and surroundings which the Europeans claim, but the "age" of them was contemporaneous rather than successive.

Beginning at the equator, we run our shaft to the poles and find at each successive zone the same relics and the same modes of life which, by digging downward, they find beneath their feet.

The bronze, copper, stone, rude-stone, shell and bone are indicative of the grades of population which have appeared under the varied climate and soil of this continent, while on the other side of the ocean they are indicative of those changes in the primitive inhabitants which followed the physical changes of earth. We go northward in space while they go backward in time. We classify them according to latitude, but they according to eras.

Classified according to material, the succession of the two continents have great resemblances. The palaffittes, the shell heaps, the dolmens and cromlechs, the earth mounds and cave contents of Europe abound respectively with wood, shell, stone, earth, and bone as do the works of remains of America.

The material is a good basis of classification, even there. The cultus is designated by it on both continents. The bone of the cavern belongs to the lowest type; the shell-heap belongs also to an ancient and rude status of society; the wood palaffitte or lacustrine settlements belong to a later stage; while the rude stone monument has a still higher development. If, too, the dolmen and cairn be classed with the earthwork, with the earth removed, the *order* of succession would on both continents be the same, and if classified according to their material we should find a complete analogy between the two systems. But when we consider the *age* of these structures or the chronological order which they present, classification seems to be unsatisfactory.

The contrast between the two continents is in the order of the succession. The succession in time is exactly reversed and the more advanced culture soonest passed away, but the rudest has survived. As before the bronze was the oldest and the rude stone the latest, so now the rude stone in America is the most ancient, while the wood and bark and bone still remain. The latest of all in America are identical with the earliest or most ancient races in Europe.

In Europe the cave-hunter, who used bone implements, first departed; the fishermen of the kitchenmidden next passed away; the builder of the earth mounds followed with his rude weapons, and the inhabitants of the palaffitte next disappeared, and last of all the Etruscan, the builder of the rude stone monuments. Thus Esquimaux, Basque, Briton, Belgian, Celt, Saxon and Etruscan are the successors to one another, while on this continent Quiches, Toltec, Aztec, Mound-builders, Red Indians and Esquimaux are the silent throng who have reversed the column of departure. The Esquimaux was ruder than the Basque; and the Basque than the Briton, and so the order of departure gave place to a higher culture.

In America the most civilized was the soonest removed, and the rudest remained the longest.

The ancient city was deserted, but the Pueblo remained; the Pueblo itself changed inhabitants, but the Mound-builder remained; the Mound-builder was driven away, but the Red Indian continued; the Red Indian has disappeared, but the

Esquimaux abides. The palaces of Palenque and Uxmal, and the seven cities of Cibola are monuments of a civilization more ancient than the Mound-builders. The mounds of the Mississippi valley were doubtless erected by a more ancient race than the people who occupied at the time of their discovery. The Red Indians held an unbounded dominion more ancient than the villages which they inhabited, and the Esquimaux may possibly have once covered the whole land where all of these tribes so lately roamed, but the last survivor of all is now the rudest and wildest. Thus the actual occupation of the territory has been in a reverse order to the civilization of the people. Thus, the palafittes of Europe are associated with the bronze age, the dolmens with the polished stone, the shell heaps with the rude-stone, and the caverns with the carved bone; and the ages the most advanced are evidently the more modern, while in America the bronze, copper, stone, wood and earth are the associated relics of a culture which is the more advanced as it is the more ancient. So, too, of the animals associated with the remains.

The earliest animals of Europe are probably the cave-bear and the hyena, the rhinoceros and the hare, and the caverns now show that they are very ancient, and associated with the wildest men. In America, however, there are animals which to a degree correspond to these, namely the polar bear and the wild wolf, but these are here associated with the wildest tribes, and at the same time they are the latest survivors of all the native fauna. As to the mammoth or the mastodon, there are some evidences that they were not unknown to the Mound-builders, and that they may have been associated with a higher state of civilization than that which followed. Thus the progress has been strangely backward instead of forward. The highest culture soonest disappeared while the lowest is the most enduring.

And now if we draw a line from the two northern corners of North America across the continent to a point on the southern peninsula, we shall find a pyramid of human existence which is very remarkable. One line, beginning with the hyperboreans of Greenland, will pass the ice huts of the Esquimaux, the wigwams of the hunters and Indians of Labrador, the stockades and defenses of the Algonquins and Iroquois, the villages and religious structures of the Mound-builders, the stone walls and rock towns of the south-west, and so reach the palaces of the Incas and the ancient houses of the Quiches in Central America. The other, beginning with the hyperboreans of the north-east, will also pass the rude huts of the Aleuts and Thlinkeets, the savage houses of

the Athapascans and Columbian Indians, the adobe houses and the Pueblos of the early Arizonians, the stone houses of the Moquis and the houses of the Aztecs, until it also reaches the palaces of the Toltecs or Quiches, and the earliest works of the Mexican civilization.

The pyramid thus constructed has its base on the broad line of the arctic ice fields, and lifts its summit into the equatorial sunlight, but has for its different steps not only the varieties of soil and climate but the very zones themselves. The successive races that inhabit its terraces corresponding also with the fauna and flora of each region, thus making it, indeed, a pyramid of life which embraces the whole continent in its magnificent dimensions. But the pyramid is in ruins, and sad to state, the more advanced is now thrown down, and each lower stage shows the marks of decay, and only the rudest and lowest types survive.

The imperishable material is soonest destroyed while the perishable abides. The sculptured stone lies deserted and cast from the summit, but the fragmentary shell and earth and wood and bark are still continued; each higher cultivation having soonest passed away, but the wilder, savage life and lower state of society proving the most enduring.

A strong contrast indeed to the advancing series of the European continent, yet marked in the reverse order of its material and its finish.

THE UTES, OF COLORADO.

The general subject of American antiquities, relating to the Indian tribes, seems to me of great importance when considered with reference to the great modern question of the origin of man, or of his progress towards civilization. A knowledge of the Colorado Utes as derived, at the White River agency, from the study of their character, has especial value. First, these Utes are undoubtedly an ancient nation, and long ago, they settled down upon habits of life that have produced a fixed type of character and of physical being. Second, they are savages, having no written language, no traditional history, no poetry, no literature, unless some relations of past events be called such. Aside from the manufacture of a few simple implements of stone and wood, their constructive and inventive faculties have never been exercised. I have traveled extensively over this part of Colorado on what might be called

general prospecting tours, and I have nowhere seen the least evidence of Indian construction, by which a permanent impression has been made; there are no walls, no mounds, no excavations; even their dead are buried in "wash-outs" covered with loose earth and stones, or under huge rocks with stones piled on each side to prevent wild animals devouring the remains. The only mark is the trail by which they travel, a path ten inches broad and sometimes six inches deep, well laid out in an engineering sense, while the localities of their encampments present dried brush bowers, all of which naturally disappear in the course of half a dozen years. And yet, only about 200 miles south are to be seen the ruins of well-constructed houses and lines of extensive irrigating ditches, certainly 500 years old, possibly 2000, and which will remain as much longer; proving past all doubt that a comparatively civilized race existed along side a savage one, and as a result the savage survives.

It is to be noted that these Utes are by no means a powerful people, nor are they at all warlike, at least they are friendly with the whites, and it is long since there were conflicts with the Northern tribes. Their health is far from being robust, nor are they long-lived, nor do they increase in population; they seem to have just about vitality enough to hold their own, and this for the reason that they have no reserve power. That disease which was supposed to have been taken from America to Europe is prevalent, and it must have originated among themselves, growing directly from excessive sexual indulgence. Add to this a deficiency of the religious and moral sentiments, and we have a race without ambition, and also, a race deficient in the inherent elements of progress. The women are more energetic than the men, for they are more muscular and wiry, their movements are quicker, in short, they are possessed of abundant nervous energy, but this seems derived from their industrious habits, not at all from moral or religious impulses. The Utes are generally superstitious, believing in the Devil, in charms and in the "evil eye," and they assert that white men can doom to death by writing words on a piece of paper; but this belief is by no means a positive one, for all their ideas are vague and uncertain, much like the history of the natives of antiquity; in fact, if we leave out what concerns the duties and routine of every-day life, their thoughts and thinking are of a floating and unfixed character. Their knowledge of healing herbs is trifling, their ideas of human destiny scarcely worthy of a description, and, as all nomadic people must be, they have no conveniences or habits of cleanliness, while vermin abound on their persons.

They are peaceful and friendly, parents are exceedingly kind to children, and brawls, quarrels and fights are seldom heard of. Their chief pursuit is hunting, the breeding and care of horses and horse racing, or in other words, gambling, which is carried on daily more than six months in a year. The efforts now making to civilize them are upon a pretty broad scale, for a large breadth of land has been put in cultivation, but their aversion to work is general and it is to be overcome by degrees.

As to the reasons why the aborigines of America have not proved an advancing people, much might be said, though the conclusions may not be accepted by all. First and foremost, there has never been a general confederation or nation governed by rulers powerful enough to enforce wise and general laws. Second, the practice of polygamy and of sexual indulgence weakened all the races to such an extent that no ruler of sufficient energy and power could be called into existence. Third, no religion beneficial in its tendencies, like that taught Moses, was introduced in the early ages so as to prevent by physical and intellectual degeneration, and now, after the mischief is done and the whole body is sodden, it is too late, for either the superior white race press too powerfully on all sides, or what is about the same thing, there is not time for beneficent religious teaching to operate upon one generation after another and so gradually raise the standard of physical and intellectual power, a process which undoubtedly operated among the Anglo-Saxons of England, during a period of several thousand years.

Perhaps the greatest obstacle at present in regard to civilizing any people, whether in America, Africa or Asia, arises, first, from want of a strong, wise government, and second, from a defect in the character of the teachers or missionaries; for such have but imperfect knowledge of rural industries and but a faint idea of their great importance. The first step in getting the savage to be receptive of ideas is to teach him to work and have a fixed and comfortable home, for upon this basis he comes to attach a right to the work of his hands, and consequently to see the necessity for a protective government, and out of this, too, grows language, for he must have names for many new things; and so his experience widens and his mind expands; without this preliminary he is not and he cannot become receptive.

N. C. MEEKER.

EARLY INDIAN MIGRATION IN OHIO.

BY C. C. BALDWIN.

Read before the State Archaeological Society of Ohio, in September, 1878.

In the historical map of Ohio, appearing in 1872 in Walling's and Gray's Atlas, and prepared by Col. Charles Whittlesey, the Indian occupation of Ohio appears as follows:

The Iroquois and tribes adopted by them, north-east Ohio, including the valley of the Cuyahoga, the Tuscarawas and Wheeling Creek; Wyandots and Ottawas, the valleys of the streams west of the Cuyahoga and flowing into Lake Erie, but following up the Maumee no further than Fulton and Henry counties. The Delawares the valley of the Muskingum; the Shawnees the Scioto and its tributaries, and as far east as to include the Raccoon, and west including parts of Brown and Highland counties. The Miamis the western part of the state, including the valleys of the Great and Little Miami, and the upper part of the Maumee.

These were in a general way the limits of the tribes in Ohio from 1754 to 1780. The Iroquois were mostly the Senecas, the western and largest tribe of that nation. The old settlers of northern Ohio to-day will generally say the Iroquois whom they met were Senecas, or generally pronounced the Sinekas. There were also Mohawks, Tuscarawas, Mingoes, and descendants not named in a tribal way of the ancient Eries and Neutrals. These named tribes were all intrusive within the period of history.

The Ottawas and Wyandots, although of different generic stock, lived much together, perhaps partly through sympathy in a similar downfall. They had been allies against the Iroquois, and in succession overcome. The Wyandots were the remains of the ancient Nation de Petun (Owendot) and Hurons. Their traditions did not tell much, but the Jesuit Relations reveal the story so eloquently narrated in English by Mr. Parkman. They were, as shown by their language and early history and tradition, cognate to the Iroquois. When first known, the Hurons were settled on the south-east of the northern portion of Lake Huron, where a French mission was established as early as 1634. In 1649 they were completely prostrated and driven away by the Iroquois. Some moved west, some settled near Quebec, where they were heavily assaulted in 1656 under the very cannon of that city.

The Nation de Petun or Tobacco Nation, calling themselves Tionontates or Dinondadies, were found in 1616 south of Lake Huron, and just west of the Hurons. Their language was almost identical with the Huron. After the defeat of the Hurons they were nearly destroyed in the continuation of the same war. With some of the Hurons they removed to Wisconsin. They were driven back by the Dacotahs to the shores of Lake Superior, and about 1680 removed to the neighborhood of Detroit, their principal seat being opposite that place. Extending their hunting to the neighborhood of Sandusky, they partly settled in its vicinity, and continued there until a late day. In 1706 their war parties reached the Cherokees, Choctaws (Flatheads), and Shawnees, by way of Sandusky, the Scioto and the Ohio. (5 Hist. Mag., 267, IX., N. Y. Col. Doc., 886.) In 1732 they claimed all Ohio as their hunting grounds, and warned the Shawnees to plant their villages south of the Ohio. (5 Hist. Mag., 267, IX., N. Y., Col. Doc., 1035.) They gradually centered at Sandusky before the Revolution.



The Ottawas were Algonquins, and in 1640 inhabited the islands of Lake Huron, and the northern part of Michigan between Lakes Huron and Michigan. They were early intimate with the Wyandots. In 1646 Algonquins were living with the Petun (Relation of 1648), most likely the Ottawas. After the overthrow of the Hurons, they fled to the islands at the mouth of Green Bay, thence beyond the Mississipp. Driven back they were after 1672 inseparable companions of the Wyandots (5 Hist. Mag., 264.) In 1709 they were at war with the Miamis (IX. N. Y. Col. Doc., 827.) In 1747 the the Hurons (or Wyandots) who had been already established at Sandusky, persuaded a portion of the Ottawas to settle on Lake Erie on the lower Maumee, promising trade with the English (X. N. Y. Col. Doc., 162.)

The Iroquois proper, when first known to the French in 1609, did not extend as far west as Lake Erie. The Neutral nation inhabited the banks of Niagara river, the east end of Lake Erie and its north shore. The map of Gallinée of 1669 has the plain legend; north of Lake Erie and west of Ontario: "Here was formerly the Neutral nation." They were called Kahkwas by the Senecas, and a river (18-mile creek) southwest of Buffalo, was named Gah-gwah-ge-ga-aah, "Residence of the Kahkwas."*

In the relation of 1641 the Neuter frontiers are placed on the river Ongniaahra, which starts first from the Lac d'Erie, or of the Cat nation and just within the territory of the Neutrals, which ranged from the east to the west, "towards the Nation du Chat or Eriechronons." The author was missionary among the Neutrals. They were of the Huron Iroquois family, called by the Hurons Attiwandaronk (a nation speaking a little different language). The French called them Neutrals because such was their position in the Huron-Iroquois war; but the Iroquois quickly overcame them, and in 1651 thoroughly devastated their country. Some joined the scattered Wyandots, "Tiotontadies," and in 1653 were west of Sault St. Marie with them. The locality is called in the Jesuit Relations, A otonatendie. The villages were likely separate, as 1653 the Neuters are said to be three leagues beyond the Sault, and on Sanson's map, of 1657, next the Sault are Aouentsiouaeron, no doubt corresponding to the name of the locality. Just west appear the Attiouandarons. A portion of the Neuters submitted to the Iroquois and were adopted into the Senecas.† The descendants of the two branches met in Ohio from opposite ends of Lake Erie. The Peninsula

* O. H. Marshall, *The Niagara Frontier*.

† 2 Shea's *Charlevoix*, 271.

north of Lake Erie was devastated. The Iroquois had turned a flourishing and thickly inhabited Indian country into a thinly settled hunting ground. They then turned their attention elsewhere, and after a severe war in 1655, thoroughly overthrew the Eries, a cognate tribe inhabiting the south of the lake named from them. But little is known of the Eries; they were perhaps never visited by but one white, Etienne Brulé, in 1615, soliciting aid for the Hurons. The brief report by Champlain of this journey leaves it doubtful if Brulé ever saw Lake Erie. It is said in 1646, that in approaching the Erie country from the East "there is a thick, oily, stagnant water which takes fire like brandy."* The Relation of 1648, written among the Hurons, says that the Andastes were below the Neutrals, reaching a little towards the east and towards New Sweden, that Lake Erie was formerly inhabited along its south coasts by the Cat nation, who had been obliged to draw well inland to avoid their enemies from the west. They had a quantity of fixed villages, for they cultivated the earth and had the same language as the Hurons. Charlevoix says that the Iroquois obtained from the country of the ancient Eries "Apple trees with fruit of the shape of a goose's egg, and a seed that is a kind of bean. This fruit is fragrant and very delicate. It is a dwarf tree, requiring a moist, rich soil." This can be no other than the paw-paw, abundant in southern Ohio, particularly on the river, and common in the center of the State. The plant rarely occurs along the lake and does not fruit there. It is abundant around some of the ancient works at Newark.

Sanson places the Eries under the easterly half of the lake, and well down from it. La Hontan, around the west end, and the Andastes beneath them. This location was evidently wrong. De Lisle, in his map of 1703, confounds the Wabash and Ohio, making it run near the lake, and the Eries were below the Ohio. In 1720, he places the Ohio more properly, and the Eries well between the lake and river.

Bellin, in 1744, in the capital map he made for Charlevoix, places them similarly. Coxe, in his *Carolana* (1721), places them similarly and, following La Hontan's error, places the Andastes south-west of the Eries.

What is known of the subsequent fate of the Eries, appears in the Jesuit Relation of 1660, which says the Senecas were the most numerous of the Five Nations because of the great numbers they had adopted from conquest, naming the Hurons, Altouendaronk, or Neuters, Riquehronons (Eries), who are those of the Nation of Cats, the Ontouagannha, or Fire

*2 Shea's Char. 190.

Nation, the Trakouachronnons, and as an instance of the strength of the Iroquois, says they overcame 2,000 men of the Cats in their own intrenchments. The Iroquois conquered the Andastes, a cognate tribe living on the Upper Susquehanna and branches of the Ohio. Mr. Shea has identified them with the Susquehannas, Minguas, Mingoos or Canestogas. After their overthrow, in 1675, they were adopted into the tribes of the league, and in various ways figured in the after history of Pennsylvania and Ohio.

The Andastes are probably the Attiouandarons, of San-son's map of 1657, placed on the east of the branch of the Ohio, running from Chatauqua Lake.* The Tuscaroras were a cognate tribe from the south (North Carolina), who returned north in 1712 and were received as a Sixth Nation by the Iroquois. Some of them lived in Ohio. The Algonkin nations living in Ohio were the Miamis and Illinois from the westerly, the Shawnees from the southerly, and the Delawares from the east. The Miamis had apparently moved to the south-east within the time of history. They were first found by the French in the neighborhood of Green Bay, and after found around Lake Michigan, in 1679, at the south-east of it. Little Turtle described their probable course when he said: "My forefathers kindled the first fire at Detroit; from thence he extended his lines to the head waters of the Scioto; from thence to its mouth; from thence down the Ohio to the mouth of the Wabash, and from thence to Chicago over Lake Michigan." The Miami Confederacy had several sub-tribes, as the Ouatatonon, or Wea, and Piankeshaus. The Illinois, a nation nearly allied, were on the west and south. In 1679, the St. Joseph, of Michigan, was the river of the Miamis, and the names of three rivers in Ohio keep their national name. They were the tribe next west of the Eries, and probably the one that pushed them inland from the north-west.

The Delawares were Algonkin living, when first known, on the coast. The Dutch began to trade with them in 1616. The Andastes were their superiors, and when the Iroquois proper conquered the Andastes, they succeeded to the supremacy. About 1700, in a war with the Cherokees, they reached the Ohio, settled, and remained there until 1773. They called them selves Lenno Lenapi, meaning men, a name similar to that used by many tribes for themselves. They claimed to be the oldest of the Algonkin tribes, and were styled grand-fathers. This means, no doubt, that they had been the first of the Algonkins to occupy their territory, and they may

* They appear in the admirable manuscript map of Franquelin, dated 1688, on the western branches of the Susquehanna.

have been the oldest or first in the great Algonkin emigration from the west and northwest. The very position of the Delawares and other coast Indians makes it probable that they were the earlier emigrants.

The early history of the Shawnees and of Southern Ohio is scantily traced. Their position did not bring them within the early acquaintance of whites, or the knowledge of history. When they applied to La Salle for French protection, he replied they were too remote. They were Algonkin, but their language had varied much from the Delawares or Miamis. In the belt of the Algonkins, extending from the Mississippi to the Atlantic, below the lakes, they occupied a position between the two. Within the period of history, they pushed into Ohio from Kentucky, and the Cumberland River is called, in the early French maps, the river of the ancient Shawnees. That was not the first time they had been on the Ohio. After the destruction of the Eries, they seem to have been next south upon that river, and I cannot but believe that while the Eries were at peace, the Shawnees lived next south, probably in Southern Ohio and Kentucky. The dividing ridge between the lake and river was a not unnatural boundary, and perhaps was the line in most of the State until the Eries were forced inland and, no doubt, pushed down the Ohio. A manuscript map of Jolliet, dated 1674, represents the Upper Ohio as divided into two parallel branches, and below the southerly is written "Pays Kentayentonga." That was an Erie town.

But the war with the Eries was too short and easily concluded to believe that the Iroquois, in that war, conquered the whole of the State of Ohio.

In 1669, when La Salle wanted of the Senecas a prisoner from the Ohio, as a guide to his intended discovery of it, the people living there were called Toagenha, or Otoagannha, "A people speaking a corrupt Algonkin." (O. H. Marshall's *La Salle and the Senecas*, 21, and Vol. I, *Margry Papers*.) The Indians undertook to dissuade the Frenchmen from their journey, telling them the Toagenha were a very bad people, who would kill them in the night, and they would run great risk before reaching them of meeting the Ontastois. We may be quite certain these tribes were the Shawnees and the Andastes. La Salle afterward procured a Chouanon (Shawnee) and was probably the first to visit the Ohio.

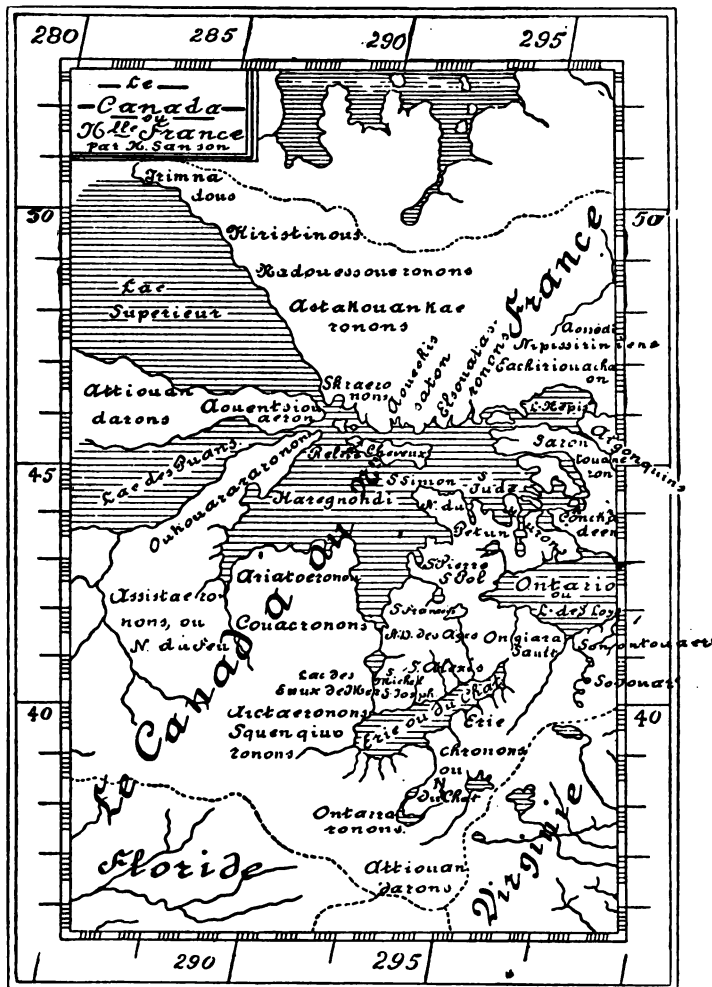
In the Relation of 1670, it appears that Marquette met at La Pointe, the Illinois. The Shawnees lived east-south-east of them, upon the Ohio.

In the Relation of 1672, Father Garnier was among the Senecas when there arrived a captive of the Ontouagannha or

Chaouang (Shawnee.) This particular Shawnee the good father converted and baptized at once, and he expresses the belief that he entered Heaven the same day he arrived at Tsonnontouan.

De Laet, in 1632, getting his information from the coast, enumerating the tribes on the Delaware, says: Some persons add to them the Shawanoes.

Having taken back our Ohio tribes as far as written history will, it may not be uninteresting to glance at a map made by Sanson, the royal geographer of France, about 1657:



Homer P. Ritter Del.

The position of the tribes and the similarity of names with the names in the earliest Relations, show that the geographical date of much of the map is 1640, about 30 years before the Ohio or Mississippi were discovered. The western tribe of the Iroquois, the Sonontouans, are east of the Genesee. The Hurons and Petuns occupy the northern part of the Peninsula north of Lake Erie, the Eriechronons or du Chat occupy between the Eastern half of Lake Erie and the Ohio, the upper part only of which appears, flowing from Chatauqua Lake. South-east of that branch of the Ohio, are the Attiou-andarons, which may mean the Neuters or the Andastes, probably the latter, as the position would be nearly correct, and the name might apply to either.

South of the west end of Lake Erie are the Ontarraronons, meaning Lake people, as Ontario means beautiful lake. These were likely the Algonkins, who had pushed back the Eries and very likely the "Miami du Lac," who gave name to the Maumee. The lake referred to was perhaps Sandusky Bay, often called lake, and reminds one of Totontaraton in 1744, one of the places of the Hurons. West of the lake are the Squenquoronons; just above on the Detroit river the Aictæronons; where the river flows from Lake Huron the Couacronons, and further north the Ariatoeronon. On the Peninsula or point between Lake Huron and Michigan are the Oukouararonons. Lake Michigan is merged into Green Bay; its southerly course does not appear; west of all but the last named tribe are the Assistaeronons or Nation du Feu. South and south-west of all these named are the Apalatcy Mountains, with no Mississippi valley, and with Spanish names. The last named tribe were the well-known Mascoutins. The name Squenquoronons, at west end of Lake Erie may have been the Nepissing branch of the Ottawas, called Squekaneronons (9 N. Y. Col. Doc. 160), said by Sagard in 1624 to be their proper name, or the name may refer to the lake, as in Sagard's case. The lake is Skekouan. The names on this map are Huron, and Indians are so apt to make a descriptive name, which sounds to whites like a tribal one, as to add greatly to the labor of study. In the very map before us the Skraeronons living east of Sault St. Marie are simply people of the Skiae or Sault (2 Shea's Char., 271). The Jesuit Relation of 1662, p. 62, has an enumeration of the bands of Indians in the Michigan peninsulas, all Algonquins and all friends of the Hurons, and all trading with the French, save some of the Five Nations and some Puants farthest to the west. The Ontaanek are, no doubt, our old friends in north-west Ohio, the Ontarraronons. I should perhaps explain for those not

familiar with Indian names that the termination "ronon" is Huron for nation, and that the terminations "nek" and "gouk" are Algonquin for the same. The Ontaousinagouk may well be the Squenqueronon. The others are Kichkagoneiak, Nigouaouichiririk and Ouachaskesouek. The first were probably Nepissings, the next to the last were no doubt the Niki-kouek of the relation of 1648 (p. 62, Quebec Ed.), and likely the Couacronons and no doubt the Ottawas.*

We find, then, about 1640 the Eries ranged in Ohio from near the east end of Lake Erie to near the west, and held the country back and part of the Ohio river. That everywhere west were Algonquins, probably the Miamis and Ottawas pressing upon them. That below them on the Ohio, were the Shawnees, and south-east of them and their kindred the Andastes were the Algonquin nations.

In the known history of the Iroquois we are not without some further light. In 1609, when first known, they were in Central New York and the confederation was formed. By clear tradition they had resided around the St. Lawrence at Montreal. It was evident that for many years they had occupied their then home. Mr. Morgan, in his Iroquois, places it since 1500, in a later article in *N. A. Review*, since 1450 at least. The Hurons, Neutrals, Iroquois, Eries and Andastes lay so compactly together in the Algonquin sea, around them that their history evidently had much in common. It is safe to assume that all the southern of these tribes emigrated from the north. Central New York must have been very attractive to fishermen and hunters. The league was formed after the migration. It appears, then, with some clearness that the Eries emigrated from the north-east to the region of Ohio and had likely occupied northern Ohio at least 150 years; no one can tell how much longer. By tradition, the Iroquois in this movement warred with the Algonquins, no doubt all they touched, and probably Delawares, Shawnees and possibly the Miamis. The Tuscaroras very probably became separated in this struggle.

The location of tribes, tradition and language all point to an earlier emigration of the Huron Iroquois family from the

NOTE.—A letter from Père Lamerville to Père Bruyas (3 N. Y. Col. Doc., 489), dated 4th November, 1686, says the Senecas wanted him to join them in fighting with Tolerontontatez (Denondades or Wyandots), the Ennekaragi and the French. It appears from the New York Council Minutes, XIV., 395, 396, that in May, 1723, they were visited by eighty men, besides women and children of the great nation called Neghkereages, consisting of six castles and tribes, and that lived near a place called Mischinakinack, between the upper lake and the lake of Hurons.

In Colden's Map, prefixed to his Five Nations, they appear there and are called Outaouacs or Necariages. The Kichkagoneick were likely the Kekeraunonronnons, the one name having an Algonquin ending, and the other the Iroquois or Huron. Lamerville in the same letter says: "A man named Andrew Flannaverses has gone with two others to look up the Kekeraunon-ronons, who are, I believe, the Nypissings, in order to induce them to come and live with the Iroquois."

west, and we think Mr. Morgan has well established its line as north of Lake Erie.* It is well-established also that the Algonquins came from the north-west, and Mr. Morgan thinks both branches of Indians went north of Lake Erie as the more natural highway. That seems probable of the Delawares; the Alleghanies were a natural barrier. We would suggest, however, that there may have been emigrations south as well as north, either by the lake shore and portages or down the Mississippi and up the Ohio. Evidences of both are found in the movements of the north-west tribes and the traditional history of tribes upon the Ohio. The Shawnee language was quite corrupted and the Delaware and Miami were much more alike than either like the Shawnee. We submit that this similarity had a cause in past history, and the Delawares, Miami and Illinois were nearer akin than either to the Shawnee, that the Shawnee emigration was different. The Iroquois pushed upon the Algonquins of the north emigration, who went in all directions, some south-east of the Alleghanies and some to the south-east from west of Lake Erie. Were not the Shawnees an earlier migration made to the south of the lakes? Their language showed early intercourse with other tribes, their tradition was that they migrated with the Foxes and Kicapoots, that they turned to the south, the others to the west. Affinity of language gives color to the tradition. Heckewelder writing in 1818 gives a tradition of crossing a great river and meeting the Allegwi, or Tallegwi. This tradition has been supposed to refer to the Mound-builders. His own view of it was, we think, evidently colored by his knowledge of the mounds. But the tradition as given by Loskiel, writing in 1778, is that about 80 years before that, on the whites settling on the coast, the Delawares came to Ohio, drove the Cherokees away and settled about Beaver Creek (p. 127). He adds at the present time, the Delawares call the whole country as far as the entrance of the river Wabash into the Ohio, "Alligewineugk, that is," says he, "a land into which they came from distant parts."

The Cherokees, in fact, long after held the mountains of east Tennessee and Kentucky, and stoutly maintained their ground against their adjacent neighbors, the Delawares and the Shawnees. The western tribes warred with them. In 1679, the Ottawas* called the Upper Ohio "Olighin Sipi." The name Alleghany, sometimes spoken of as our only word from the Mound-builders, we submit means the Cherokees. In the atlas of the Royal Geographer, D'Anville (Paris, 1746),

*110 *North American Review*, 33.

a branch of the Ohio, apparently the Kenawha or Monongahela, is called river "des Tchalaqueé" evidently meaning the Cherokees, called otherwise Chalakees, or more properly, says Gallatin; Tsalakies I. D'Anville's very fine and full map of 1755, he spells it Alegue, and makes it branch to the east above Pittsburgh, apparently the Kiskeminetas. The Iroquois had a tradition that they drove Indians from this vicinity. In 1722 in treaty with Virginia, their orator said that all the world knew that they had driven away the Cohnowas ronon. Had the Iroquois and Delawares joined in this adventure? and was Heckewelder right in this part of his tradition?

The time of the conquest is uncertain, the extent of occupancy, but I think it reasonably established that the Talegewi were the Cherokees. I am pleased after coming unexpectedly to this conclusion to find it had previously been announced by Mr. Brinton.*

A critical study and comparison of the Cherokee language with other Indian languages would throw some light upon the early history of the west.

Mr. Brinton says "it has a limited number of words in common with the Iroquois, and its structural similarity is close." Gallatin and Dr. Barton were inclined to think the Cherokee belonged structurally to the Iroquois family. The differences of it from the Iroquois were probably even greater than between the Shawnee and other Algonquin tongues. I submit that the similarity of the Cherokee to the Dakota languages is greater than the Iroquois; a conclusion I believe Mr. Gallatin and Heckewelder would have reached but for the limited information accessible to them about the Dakota tongue. In 1540, De Soto apparently found them upon the upper waters of the Tennessee and Cumberland at a time when likely the Akansea were lower on these rivers. In 1669 the Shawnees were on the Ohio next the Andastes. The Shawnees were driven south by the Iroquois, and settled on the Cumberland. They must have displaced the Cherokees, and in part, possibly, the Akansas, driving one to the west

*NOTE 1.—Mr. Shea, in *Voyages Up and Down the Mississippi*, p. 75, and also in his article in the *American Cyclopaedia* on the Arkansas, suggests that they may have been the Aleghin, and, page 120, the Ohio is said to be called by the Oumiamis and the Illinois the Arkansas, because that tribe once dwelt there. This information comes from the banks of the Mississippi. The mouth of the Ohio is a long way from the Allegheny, and tribes from the west would not drive a tribe so far back in their own track. The Dacotah character of the Arkansas would show them improbable intruders in the Allegheny and properly belonging geographically at the mouth of the Ohio, or where afterwards found. "It is the united river, commonly called Ouabachi, called by the Illinois Arkansas."

Notice that the text speaks of the united river emptying into the Mississippi, recognizing the three branches, Wabash, Ohio, and the other from the S. S. W., on which are the Shawnees. In a map in my possession Peter Schenck, Amsterdam, 1706, the Cherokee river is called the Oceansea, in another early map the Akansea, and the Arkansas need not to have retired far from its mouth down the Mississippi, nor to have separated from their Dacotah brethren. Had the Allegheny been called Arkansas by the tribes living on it, the case would have strength. In Marquette's map of 1673, the Arkansas are placed on the east bank of the Mississippi, below the Ohio.

and the other to the east and north-east. At any rate, as we have seen, we find the Cherokees shortly after on the upper Ohio, and, if I am right, by an emigration first down the Mississippi, and secondly up the Cumberland and Tennessee. Mr. Shea (*Am. Cyclo., Art. Cherokees*), well describes the home of that tribe when first known to the whites to be the upper valley of the Tennessee, the mountains and valleys of the Allegheny range, and the head waters of the Savannah and Flint. This tribe was, perhaps, the vanguard of the western Dakota emigration down the valley of the Mississippi. By Cherokee tradition they did not build the mounds in their country.

The Shawnees and Cherokees seem to have been the foremost in the great Indian migrations which met the Mound-builders. It is thought singular that there are no traditions of that move.

But when we think how faithless are the traditions among the whites of one hundred years ago, almost sure to be very wrong, even of one's great-grandfather, and that the Mound-builders apparently left Ohio several hundred years ago, at least, the want of memory of that event does seem singular. Indians were always warring and moving. But the same careful linguistic study in America that has told so much in the Old World will tell us something of the New.

The early voyagers along the coast, nearly all speak of copper in the hands of the Indians. Even in so small a book as Mr. Higginson's "*Explorers for Young Folks*," this is very striking. In Virginia, on the Hudson, and in New England was found enough to impress the travelers. It could have come from but one source, Lake Superior. In the Mississippi valley some may have been found in the drift, but not enough to make such abundance as evidently existed. There was much more commerce among the aboriginal tribes than is generally supposed. The first discoverer of Florida found a trade with Cuba. There are in the West even on the borders of the lakes evidences of trade with the Gulf of Mexico, and in later days there was a trade across the plains.

We say we think there was copper enough to show a trade most likely with the Algonquin nations, as they held the mines, and as at that time the Huron Iroquois held the north of Lake Erie, we think it took place south of the lake. The main mining was, no doubt, long before and, as shown in the earliest account of the ancient copper mines,* many had long been abandoned. We think some had not, and that Algonquins were adequate to continue in a feeble way the prior works, and the Shawnees occupying the Ohio river, famous afterward as enterprising traders,

* Col. Charles Whittlesey's Smithsonian Contribution, "*Ancient Mining on the Shores of Lake Superior*."

to conduct the commerce.† Possibly this helped to corrupt their tongues. A theory has been suggested that the Mound-builders voluntarily abandoned Ohio and withdrew, finding the experiment of northern life too laborious. The movements of nations are not so voluntary and independently complete. If Mound-builders came from a better climate and place to Ohio and built the immense works they did here, it was because there was a force behind them pushing them on, and after such immense labor they abandoned Ohio, there was a pressure from the other way. Ohio, from being well peopled for savagery, did not become a waste without force.

We take it for granted that when the advance of the two great families of northern Indians entered Ohio, they found prior occupants. Who were they? Not highly civilized, but village Indians, cultivating the soil, and in some places thickly settled; not building homes of brick or stone. A people who did not grow in Ohio indigenous to the soil, and die like an annual plant, but not even leaving seed behind them. They had their affinities of character, manners and blood with other people, and with whom? It seems as though no one could thoroughly read Mr. Jones' book on the southern Indians without being struck with the similarity of the works and relics found among them and in Ohio. Certainly the Ohio works and relics are more like theirs than like any other.

Mr. Jones and other leading archæologists after him have thought some of the southern tribes connected with the Mound-builders of Ohio, and that the descendants of the latter were likely at the time of the discovery in the south. Geographically we should look there. The entire north occupied by tribes from still further north and west, where could the prior residents possibly have gone but to the south.

A proper linguistic study might throw light upon the problem. The Shawnee language was perhaps corrupted by captives or adoption. More corrupted than any other of that generic race, as west and east was spoken purer Algonquin, and they apparently preceded the Iroquois family in the occupation of Ohio. From what tribes or of what tongues were the captives, and what nation was so long in contact with the Shawnees as to so affect their language?

† Since this paper was written, Rev. Edmund F. Slafter has published in the *N. E. Historic and Genealogical Register* for January, 1879, a very instructive article exhibiting considerable direct testimony from the early French Memoirs, that the Indians then procured copper in quantities from the Lake Superior mines.

AN EXHIBITION OF INDIAN CHARACTER.

BY W. L. COFFINBURY, GRAND RAPIDS, MICH.

In the summer of 1853 I had a contract of surveying Government land in the lower peninsula of this State (Michigan), in what is now known as Missaukee county; in which Muskrat lake is situated. The country was then a wilderness; the Catholic mission on the point in Grand Traverse Bay being the nearest settlement to my territory, and that seventy miles distant from my camp. I had made arrangements with my family before leaving home in April, to go to the post-office at "Mission Point," to receive and deposit letters, and field books of my work for the Surveyor-General. Accordingly, on the first day of August, I, with one of my young men for company, set out to go through the wilderness seventy miles to the post-office. When we had traveled around the lake from our camp on the east side, to the west side, we found some Indians camped there, from the Grand Traverse Indian settlement, who were out on a deer-hunting excursion; there being no deer in the vicinity of their homes. Three of them, one old man and two young men, probably his sons, were tying up bundles in form of knapsacks, and had the appearance of preparing for a tramp.

My young man and I could speak a few words of their language, and they about as much of ours, and so, between what we all understood of each other, we made out that they were going home to Mission Point—just where we wanted to go. We were glad to have company. They had a blind trail which they could follow, although a white man could not, unless he was a practical woodsman or a surveyor.

When our company got ready, we all started into a blind forest northwest of the lake, each one carrying a knapsack on his back. We traveled together till noon, without conversation with our red companions, except as an occasional word dropped from one of the young men would be replied to, but not a word from the old man.

About noon we came to a fine brook of cool, clear water, and I proposed to eat our lunch and rest a little while. The day was very hot, and mosquitoes very thick and hungry, so we made a smudge and took out our loaf of bread and piece of pork, and the red men lighted their pipes; having no lunch, I presume they intended to smoke while we ate, but I, seeing they made no signs of eating, offered each of them a piece of bread and pork, which was received with a nod and kind of guttural acknowledgment, and pipes were laid aside until after lunch.

While we were resting and the red men smoking, all sitting on the ground, I noticed they were eyeing each other in a peculiar way which I did not understand; as I was watching to see what it meant, I also noticed that they began to hold their heads lower and lower towards the ground and speak to each other in whispers, their eyes now all turned in the same direction, I, too, looked in the same direction, with my auricular nerves all sharp set to catch the slightest sound, but could hear nothing. I finally asked what my friends heard and got the answer in a whisper, *Nich-a-nau-ba*, the Indian word for Indian.

In a few moments after, I heard at quite a distance, the dull thudding sound of a horse's feet on the ground coming toward us. I had always, till that time, rather prided myself on the acuteness of my hearing, but these children of the forest certainly threw my self-conceit in that respect in the shade. The curiosity of all the performance was that the traveling Indian was going out to the lake which our companions had just left, but no conversation whatever took place between the parties. On the contrary, the traveler with the pony made a circuit and left the trail, and did not come nearer than four rods of the resting party.

White people, when meeting their neighbors away from home, would have been likely to have said "How were our friends at home, when you left?" "What are the prospects for game at the lake?" "Where have you been?" or some such question; but these never spoke. I then asked if they knew the Indian who had just passed, and was answered in the affirmative by a nod of the head, but no other explanation was made.

When they had finished their smoking, and we felt rested, we resumed march together, and traveled all day in a perfect wilderness, they leading the way along a trail so dim that no one but a woodsman or an Indian could follow it. We traveled all the afternoon together, and just at evening we arrived at an open spot beside a beautiful brook of clear, cold water, where the ground had the appearance of wear and use. A pile of old ashes and burned ends of sticks of wood, and the general aspect of the surroundings required but a moment to determine that the place was an Indian camp.

Our Indian friends, without any ceremony, unloaded their knapsacks, and my young man and I followed their example without question. A fire was soon lighted, and preparations for night were made. The old Indian, who had not spoken a word of English all day, went around peering into the brush and bushes, and finally approached a large old pine log and

began to rake the old leaves out from one side of it, and pulled out a camp kettle and some knives, forks, spoons and tin plates. By this time the young men had a fire made, and they fixed a tripod of three sticks, hung over the kettle with water in it, and one of them opened his knapsack and brought forth a deer's head which he had carried all day rolled up tight in a woolen blanket, through a hot sun in August, but there was not the least taint, or sign of being spoiled about it. The young men skinned the head, cut it up and put it in the kettle of water to boil. They had shot several pigeons in the afternoon. These they also dressed and put in the kettle. Seeing all the operation carried on with my eyes open, and nothing filthy about it, I put in a small piece of pork for each of the family, say five, calling attention to the fact as I did it, and in acknowledgment of it received the expression from the Indians "neshien co-cush," which, being interpreted, means good pork.

While the cooking was going on, the old man took one tin plate, one knife and fork, to the brook and, with sand and water, scoured them clean and bright, and when the meat was well cooked he took out one pigeon, one piece of pork, and one piece of venison, on the clean plate, together with the clean knife and fork, and brought them to me, where I was seated to rest after my hard day's walk, and with a low bow and a guttural *ugh*, set it down to me for my supper. We gave each one of them a piece of our bread, and we all had a good supper and soon retired for the night, each one of our Indian companions by himself, rolled up in his Mackinaw blanket like a silk worm in his cocoon, and a respectful distance from me, and thus spent the night. It is presumable that our traveling companions knew what we were doing in the woods, and as I was the oldest of our party, the old Indian exhibited his respect for my station by giving me a clean dish, knife and fork at supper.

We traveled together the next day till evening when we separated, they turning off to their homes. The only articulate word the old man uttered in my hearing was at the fork in the trail where we separated. I was a little behind the company when they arrived at the fork, and the young Indians took one trail and my young man the other, but the old Indian stood at the fork until I arrived a few minutes after; then he pointed me to one trail saying "mont-pa," which is as much as to say "that way;" he then gave me his hand and made a bow, and we parted.

DISCOURSE OF DR. PAUL BROCA,

—AT THE—

Opening of the International Congress of Anthropological Sciences, in connection with the Universal Exposition, at Paris, August 16th, 1878.

(Translated from "*Revue d'Anthropologie*," October 15th, 1878, by Otis T. Mason.)

LADIES AND GENTLEMEN:

At an epoch whose prodigious antiquity surpasses all our chronologies, in the midst of gigantic monsters who disputed the possession of the soil, appeared a feeble and wretched being, naked and without arms, sustaining with difficulty, from day to day, his famished existence, and finding in the crevices of the rocks an insufficient refuge from the dangers which assailed him incessantly. By the ordinary calculus of chances this creature appears to be deprived of all that could insure the survival of the species in the battle of life; surrounded by enemies numerous and terrible, without means of attack and defense, exposed during a long and feeble infancy to all the aggressions and vicissitudes of nature, he appears to have been foreordained to destruction. But he possesses two marvellous instruments, more perfect in him than in any other creature: the brain which commands, and the hand which executes. To brute force, till then sovereign in the world, he opposed intelligence and cunning, a mighty conflict, in which the latter is destined to overcome the former.

The colossal species of geological times have disappeared; man remains. He has vanquished all his rivals, vanquished nature herself; and on this very spot, where, long ago, with the hand of a novice, he chipped his first weapons from silex pebbles, rolled by a river as yet unnamed, to-day unfolds the splendors of the Universal Exposition.

The spectacle which surrounds us, dazzles the curious, instructs the observant, and rejoices all the friends of progress. The mechanic, the savant, the artist, the economist and the philosopher contemplate with admiration, this brilliant manifestation of human genius, and appreciate with pride the irresistible power of civilization. But he alone, can appreciate all the grandeur of that civilization, who knows at the price of what efforts through the centuries it has been developed, what innumerable obstacles it has surmounted, through what long stages it has journeyed, from its humble beginning in silex to the age of steam and electricity, what myriad forms it has assumed, conformed to times and places, to environment and

race, what influences, finally, the social state produces by its different agencies upon the intellectual and moral character of man, as well as upon his physical constitution.

The two eminent men whom the government has placed at the head of the Exposition, M. Teisserenc de Bort, minister of agriculture and commerce, and M. Senator Kranz, general commissioner, have appreciated the utility of this contrast between the light and shadow, between civilization developed and civilization rudimentary and in process of evolution; between humanity in its infancy, ignorant, forgetful, ruled by nature, oppressed by itself, only advancing to-day and retrograding to-morrow—and humanity adult, ennobled by science, fecundated by liberty, sanctified by labor, and marching with a steady face on the illimitable highway of science. From this lofty thought sprang the International Exposition of Anthropological Science.

In deciding that this special exposition should take place, in resisting with firmness the efforts directed against it, the two chiefs of the Exposition have rendered to the science of man a signal service. Anthropology, of which already public opinion appreciates the importance, has received from them an official consecration; and if you will go back a few years, Messieurs, you will appreciate the extent of the road traversed. Twenty years ago, our science, disdained, almost unknown, groped its way even without a name. The few savants who here and there consecrated to it their leisure, lacked the means of study; they labored without direction, they wrote without a public, they spoke without an echo; if, at times, any question more or less anthropological by accident had the privilege of being investigated in the interest of a political party, this factitious movement lasted just as long as the extra scientific agitation which had called it forth; at other times, a dead calm; neither friends nor enemies; a charming indifference appeared; so that if any one had conceived the project of an anthropological exposition, nobody would have taken the trouble to oppose him.

But to-day, how changed! Anthropology, enlarging its programme, has extended in all directions with a vigor and rapidity almost unexampled in the history of the sciences. It is represented in nearly every country of Europe by special societies, whose members are counted by thousands; it has its section in many academies, and its place in the general scientific meetings; it has, moreover, its own congresses, some embracing the entire programme, others limited to one of its branches; it has numerous journals, public and private museums, several laboratories, several professional chairs, the first

of which in time is that of our museum of natural history; it has, finally, at Paris, a public school, now two years in existence, where instructions, theoretical and practical, are divided into six distinct chairs, and where serious and diligent auditors congregate.

Such is what may be called the anthropological arena of to-day; but the influence of our science extends far beyond this stage. The subject matter of our studies is not one in which the public can be uninterested; the scientific field in which we labor touches everywhere the boundaries of other domains; it is found in alliance with medicine, zoology, geology, history, archæology, mythology, linguistics, statistics, politics, philosophy, and even with metaphysics. Whoever studies man, from any point of view whatever, whether physical, intellectual or moral, and the manifestations of his activity in the present or in the past, individually or collectively, in the family or in society, encounters every moment questions which conduct him to the threshold of anthropology, and frequently invite him to cross it; and these questions are often of a nature to awaken controversies, of which all cultivated minds comprehend the weight. Anthropology, therefore, has a right to occupy a prominent place in public attention. Henceforth, nothing will be missing from its retinue, neither its fervent devotees, nor its faithful allies, nor the crowd of its friends, known and unknown, nor indeed its systematic detractors, whose hostility only heightens its importance.

That which constitutes the force of this science and gives to it a positive character, that which has brought it speedily from infancy to maturity, is the employment of rigorous methods of observation. It has never ceased since the days of Buffon, who was its founder, to attach itself as much as possible to the search for material facts. These facts, it is true, come but slowly, and anthropology, under the circumstances, having but insufficient materials at its disposal, not being chained down by realities visible and tangible, has wandered into the field of speculation. But it has become a true science of observation, since the rich materials of study have been accumulated in public and in private museums. To views more or less ingenious, to hypotheses more or less seductive, which made no pretense to direct demonstration nor refutation, has succeeded the study of sensible objects, of which the description and interpretation may be easily discussed and controverted. It is for this reason that we witness in every land the progress of anthropology keeping pace with the development of anthropological collections.

But these collections, however large, are always very incomplete; those which have a general character, which include all ages and lands, cannot present the majority of questions excepting in a comprehensive view. The study of details can be prosecuted only in special museums, above all in local collections where are brought together a great number of specimens relative to a single subject, epoch, or population. These riches dispersed throughout all civilized countries, are inaccessible for the most part to savants, and those who are permitted to study them in place regret their inability to subject them to comparisons with others. It is vain to attempt to harmonize the results of description, of mensuration or of representation, so as to render comparable with one another the facts recorded in different lands by different observers; nothing can take the place of an examination of the objects themselves for the purpose of a comparative study. Surely, anthropology has made great progress in the last few years, but how much more rapid and sure its march would be if all its material resources could be brought together at various times and places, which, thanks to the co-operation of all nations, our anthropological collections possess.

The International Exposition of anthropological sciences, undertaken this year, on occasion of the Universal Exposition, responds to the needs of science. In confiding to the Society of Anthropology, of Paris, the responsibility of organizing and directing it, the Minister and General Commissioner have shown clearly that their aim was exclusively scientific. The Commission, presided over by our illustrious colleague, M. de Quatrefages, has not neglected to respond worthily to their intention. The object is to render a service to students rather than to excite the curiosity of the public. To the central locality, the place of honor which was first offered in the rotunda of the Trocadéro palace, it preferred a retired gallery of difficult access, but four times larger, and where it has been able to display, without much inconvenience, the numerous beautiful collections which foreign nations have been willing to confide to our country. It has sacrificed the picturesque to the serious, the decoration to the study. These skulls, these skeletons, these brains which, it is said, might repel visitors, these flints, innumerable and often monotonous, which might exhaust the patience, it has crowded into these cases for the instruction of anthropologists who were its objective point. But in pursuing this end it has, moreover, attained another, and the public has come in crowds to insure the success of the first international exposition of anthropological sciences.

Let us hope, gentlemen, that this success, witnessed by the foreign commissioners, will awaken in them the desire to organize in their own countries expositions of the same nature. They would have, like all international works, the effect of conspiring to that reconciliation of peoples, of exciting among them that only truly profitable rivalry, the only conflict which benefits the whole world, that of science and labor. But they have another advantage, which concerns us particularly here, of increasing more and more the taste for anthropological researches and furnish to the science of man inexhaustible sources of study and progress.

It belongs to you, gentlemen, to realize these suggestions. Our congress is the necessary complement of the exposition of anthropological sciences. The commissioners of the anthropological society have comprehended from the first that an exposition of this nature ought to be something more than a simple exhibition; something more than a field of observation opened to savants during a half year; it should leave enduring traces in the sciences, and the facts elicited should be consigned to a special publication after having been publicly discussed. But it was asked in what form and at what time these discussions should take place. It was known that a great number of exhibitors and foreign delegates would come to Paris at the commencement and at the end of the Exposition to oversee the arrangement of their cases, and the repacking of their precious specimens; but it was also known that many students, especially those engaged in teaching, could have their time at their disposal only to the end of the summer. Hence the idea originated of instituting at three different times, three series of *séances plénières*, in which each one might participate according to his convenience; indeed, these *séances* were announced in the *Bulletin de la Société d'Anthropologie*; but the importance and success of the anthropological exposition were not taken into account, and a few weeks before the opening when it was known what grand results were achieved, it was concluded that discussions renewed on several occasions upon the same subjects, by different speakers, and in the absence of their objectors would lack unity and even justice. The project of the *séances plénières* was abandoned and a new commission, which confided to me the perilous honor of presiding, has been charged with organizing an international congress of anthropological sciences.

It is not without sincere regret that, in choosing the month of August, we are deprived of the presence of many foreign savants, and among them the most eminent representatives of

anthropological science. But we can at least utilize their labors and we know that their sympathies are entirely with us.

For special reasons I deem it my duty to state that our congress is entirely distinct from the celebrated International Congress of Anthropology and Pre-historic Archæology, which held a brilliant session during the Universal Exposition of 1867, and which, since then, has passed with success from north to south, from west to east over a great portion of Europe. By the immense service which it has rendered to pre-historic science, this congress has merited the recognition of all anthropologists, but it has secured peculiar claims to the gratitude of our nation in adopting the French as the exclusive language of its sessions. When it takes us to foreign countries we have the good fortune to recognize our mother-tongue and of feeling always at home, a charming compliment, since it was spontaneously rendered by our foreign colleagues at a time when France lay vanquished and bleeding. It would have been but a poor recognition of this honor, to seek to profit by the present circumstances in order to bring back to Paris before its turn, a congress which has not yet made its first round. It ought not to be supposed, therefore, that this meeting is the International Congress of Anthropology and Pre-historic Archæology in disguise. It differs essentially in its general title, in its programme, which embraces all the anthropological sciences, and in its aim, which is, above all else, to study the rich anthropological material brought together in our exposition.

In calling your attention to the principal aim, the committee of organization do not intend to limit, in any respect, the members of the congress. All communications will be received, every subject shall be remanded to the programme, and all the discussions shall be re-produced in the reports to be submitted to the commissioners.

Each of our meetings will be preceded by a visit to the gallery of the anthropological exposition. The specimens relative to communications and discussions which are the order of the day will be submitted to examination by the exhibitors themselves.

I take leave to thank, in the name of the committee of organization and, I rejoice to say, in the name of our country, the foreign savants who have had the goodness to lend to our congress the encouragement of their presence and the support of their names. We wish the greatest happiness to our foreign guests. This occasion is dear to us on account of the cordial relations which it establishes and for cementing the fraternal union of anthropologists of all lands.

INDIAN MUSIC.

BY REV. M. EELLS.

Music among these Indians, consists more of a noise, as a general thing, than of melody or chords. As a rule, the Clallams are far more musical than the Twanas. The women sometimes sing alone, when at work, at funerals, and when tending the children; but in nearly all their gambling, boat, war and religious songs the men take the lead. All persons sing the same melody, but sometimes the pitch of different persons varies considerably.

. INSTRUMENTS AND ACCOMPANIMENTS. — Their instruments are also intended more for noise than for anything else; indeed, no single one can vary the tone, the only modification being loud and soft. These are used mainly in those songs which have a religious bearing to them. 1st, They consist of the drum; this, with the Twanas, is square or rectangular as to its head, and varies in size from a side a foot long to one two feet or a little more. It is made of deer skin stretched over a wooden frame; it has only one head, and on the reverse side the leather strings are crossed so as to form a handle, and the drum is held with one hand while the other is used for pounding; it is only from three to five inches deep, but different ones, according to their size, vary in tone as much as an American snare and bass drum. The Clallams use the same kind and also have another which is similar in all respects, except that the head is round instead of being rectangular. 2d, Deer-hoof rattles. The hoofs of deer are strung on strings sometimes in quite large bunches, and either held in the hand or fastened to the waist while dancing, and I have lately seen the copper of rifle cartridges, which have been shot off, mixed with them. 3d, Hollow wooden rattles. Two pieces of wood are carved and hollowed, small stones or shot are placed in them and they are fastened together with bark at the handle, and skin strings at the sides. They are usually painted black and are shaken by a circular movement of the hand. They are not now used by the Twanas, but I think were formerly.— Others of different shape and painting are occasionally imported by the Clallams from the Indians of British Columbia, but they are made on the same principle, *i. e.*, hollow, with stones or shot in them, and to be held in the hand. 4th, The Clallams occasionally add rattles made from the scollop shell. A hole is pierced near the hinge of the shell and a number of

them are strung on a stick, which is bent in the form of a circle 8 or 10 inches in diameter. These are shaken edgewise, not sidewise, for in the latter way they are liable to break, and if this shall occur, the person holding them will die soon, according to their belief. 5th, As accompaniments to their music, those without instruments pound with small sticks on larger ones, or clap their hands together.

SONGS.—These consist of work, patriotic, and boat songs; those for gambling and the nursery, for love war and funerals, and their religious songs. I have known of instruments being used only with those for war and gambling, the boat and religious songs, and in all of these the aid of their guardian spirits was invoked, which made them religious. The songs are continually repeated. I have never been able to obtain any of their patriotic, love or work songs, but of the rest I give the following:

1st. THE BOAT SONGS.—When travelling in a common way in their canoes, they sing very little, but sometimes when on a parade before friends and generally on the arrival of three or more canoes at a council or great festival, there is considerable singing, accompanied by the drum, clapping of hands, pounding with sticks and paddles, on boards, and the canoes, and sometimes by the hollow wooden rattles. This occurs just before the arrival, sometimes, however, beginning as long before as they can be heard. There is, then, a religious element in these songs. Song No. 1, is one of these which I heard in 1875, when a band of the Clallams arrived at a council, and No. 2 is another which I heard when the same Indians arrived at a great festival. Those on shore sometimes reply with another song, while those in the canoes rest for the purpose.

2d. PATRIOTIC SONGS.—At one time I was travelling with a large number of Twana Indians, one of them being a woman of the Chemakum tribe who was married to a Twana man. Our way was through the Chemakum land, and when we reached it, she broke out into a talk and song of some kind, but at first I did not understand what she was doing. I asked the other Indians and they said "hush," and I did so, as they all kept still, but they afterwards told me that she was singing an ode in the Chemakum language to her native land. None of the rest understood her, but they kept silent, out of respect. This is the only one of the kind I ever heard.

3d. GAMBLING SONGS.—When gambling in one method, with pairs of bones, singing is universal, accompanied with the pounding on large sticks with smaller ones. Nos. 3 and 4 are Twana songs of this kind. No. 3 having been sung by one party, and No. 4 by the opposing party in the same game.

The words have no meaning. Nos. 5, 6, and 7 were songs which I heard sung by Clallams in the same kind of game, and No. 8 by both tribes.

When gambling with discs, usually there is no singing unless they wish to invoke the aid of their guardian spirit. Then drums are brought in, one or more for each party; there is pounding on sticks, and clapping of hands and singing. In this singing, I understand that each one is invoking the aid of his or her guardian spirit, so as to win the game. I was present at one such Twana game not long since, and when in the house, the singing was a complete medley of confused sounds and words, and I could catch nothing of it, but when I was a few hundred yards away they mainly blended into song No. 9, though different keys, mainly in chord were discernible.

4th. NURSERY SONGS.—The common ones, to soothe a crying child, or hush one to sleep, I have never been able to obtain, but I have been told of No. 10 by a Clallam. A rough mask was put on the face of the parent, and the song was sung to frighten the crying child into quietness.

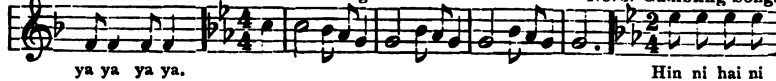
5th. FUNERAL SONGS.—At almost all funerals there is an irregular crying kind of singing, with no accompaniments, but generally all do not sing the same melody at the same time in unison. Several may sing the same song and at the same time, but each begins and finishes when he or she may wish. Often for weeks, or even months, after the decease of a dear friend, a living one, usually a woman, will sit by her house, and sing or cry by the hour; and they also sing for a short time when they visit the grave or meet an esteemed friend whom they have not seen since the decease. At the funeral, both men and women sing. No. 11 I have heard more frequently, some time after the funeral, and No. 12 at the time of the funeral by the Twanas. The words are simply an exclamation of grief, as our word, *alas*; but they also have other words which they use, and sometimes they use merely the syllable *la*. Often the notes are sung in this order, and sometimes not, but in some order the notes *do* and *la*, and occasionally *mi* are sung.

6th. WAR SONGS.—These are generally now sung only at some great festival in remembrance of former days. No. 13 I heard sung thus by the Clallams. It was constantly repeated, and they closed each time with a great *ho-ya*, when all squatted nearly to the ground. This was done with blackened faces, and accompanied with the drum and hollow wooden rattles.

No. 1. Boat Song.



No. 2. Boat Song.



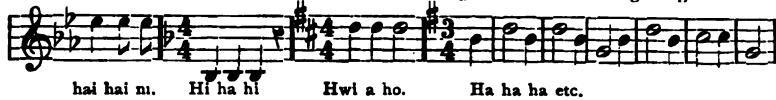
No. 3. Gambling Song.

Hin ni hai ni

No. 4.

No. 5. Gambling Song.

No. 6. Gambling Song.



No. 7. Gambling Song.

No. 8. Gambling Song.

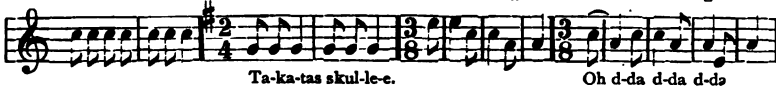
No. 9. Gamb'g Song.



No. 10. Baby.

No. 11. Mourning.

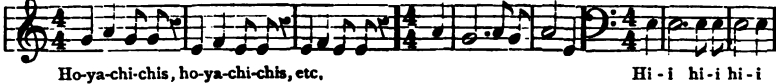
No. 12. Mourning.



No. 13. War.

No. 14. Wind.

Base for 14.



No. 15. Sick.

No. 16. Sick.



No. 17. Sick.

No. 18. Dance.



No. 19. Dance.

No. 20. Dance.

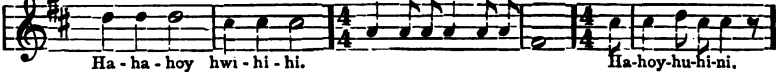
No. 21. Black Tamano-us.



No. 22. Black Tamano-us.

No. 23. Black Tamano-us.

No. 24. Black Tamano-us.



7th. RELIGIOUS SONGS.—At their religious performances, whatever be the occasion, singing is almost universal. No. 14 I heard when a party of Twanas were encamped and were

seeking the aid of the spirits for a fair wind for that day's journey. It was accompanied by the drum and pounding on sticks. Nos. 15, 16 and 17 are Twana songs, when a medicine man is attempting to cure a sick person. No. 17 had a kind of bass on "do" in the same time. They are sung by all present and accompanied by the same as No. 14. No. 18 was sung by the Twanas and Nos. 19 and 20 by the Clallams, at a dance, and were accompanied by the drum; No. 20 is a solo. No. 21 is the chorus only, of a song sung by the Clallams at what is called the black tamanöus performance; a secret society and the most savage kind of religious practices. The solo was so varied that I could not get it. Nos. 22, 23 and 24 are black tamanöus songs of the Twanas; generally each of the three were begun by a leader singing it, then another took it up, the first one stopping, then all, from 20 to 40, joined in with a small drum and the hollow wooden rattles, once or twice, then a large drum was used, and the song was repeated several times and all ended with a great *hi* or *hoy*, meaning done. When 24 was sung, an extra voice sang something higher and varied at times. Of the dance and black tamanöus songs these are the simpler ones that I have heard; the more varied ones I have been unable to get before they would cease.

SAND-FIELDS AND SHELL-HEAPS.

CHAS. F. WOOLLEY.

The aboriginal relics found in Monmouth and Middlesex counties in New Jersey, the scene of my explorations for the past two years, are most abundant in the places locally known as "blown sand-fields." Most of these fields have been under cultivation but are now, for the greater part, entirely abandoned. These spots are peculiar and invariably attract the observer's eye, being totally different in appearance from the surrounding surface; the sand or top soil having been blown away leaves a bare, barren spot nearly destitute of vegetation, strewn with broken pebbles, generally of small size, many showing the former action of fire, and frequently in regular piles or heaps. Amid these heaps or in their immediate vicinity, the soil frequently presents a carbonized appearance, much darker in color than that adjacent to it.

Scattered over these areas are found the various kinds of implements, chippings and fragments frequently interspersed with clam and oyster shells, when the locality is upon a stream

flowing into the coast bays or inlets. These sites of aboriginal villages or camping grounds are numerous in the two counties mentioned and, having explored more than forty of them where the "finds" were most abundant, scattered over areas of from one to six hundred acres, I have made a large collection, and many interesting observations. Nearly all the chipped and polished stone implements known to archæologists of this section are found in these sand-fields; also, some of shell and many made of the whorl of the *Pyrula*, but those implements and ornaments of copper, found in other parts of the United States, are rare here, though occasionally found, while as far as I am aware those of bone are entirely wanting. Fragments of pottery, some of which show profuse ornamentation, are very numerous and indicate, in some instances, vessels of a large size, as much as twelve inches in diameter. The chipped implements are, for the greater part, made of Jasper and a Basaltic stone, neither of which are found *in situ* anywhere in this part of the State. It may be of interest to note here that I have in my cabinet a lozenge-shaped stone of Catlinite (red Pipe-stone), neatly perforated, found near the village of Englishtown in Monmouth county, 1100 miles from its quarry!

In comparing the specimens gathered from different places great differences are to be noted; a finely made arrowhead as hard and sharp as when it left its maker's hand, will be found lying upon the surface in company with a rude one of the consistency of chalk, one that needs to be handled with the greatest care for its preservation, literally a decayed stone. Again, some places will furnish the majority of its arrowheads and spear points of a particular pattern. Generally the simple stemmed variety is the most common, though in one sand field the predominating style of arrow points is bifurcated base, barbed and beautifully serrated.

Near Old Bridge, Middlesex Co., along the line of the Old Camden & Amboy R. R., near the South River, is one field strewn with fragments and flakes and a fair representation of the usual "finds," but not one arrowhead; less than a half-mile away in another sand-field they were numerous. In the field characterized by the absence of arrowheads, I gathered on an area of 900 square feet, fifty-six broken spear heads of large size and good workmanship; ten of them were the pointed ends and forty-two the stemmed, thirty-four were of one mineral. No perfect spear heads were found among the broken ones. One of the most prolific spots in New Jersey is Spotswood, ten miles from Old Bridge, and also near Freehold, Monmouth Co. More than 400 perfect implements have been

collected from an area of about an acre. Along the head waters of the Manosgrav River are three sites or camping grounds of the Delaware-Indians, all on the border of the extensive forest region known as the "Southern Pines;" they are not more than two miles apart.

Implements are frequently found *en masse*. Most of these *caches* are rude looking flakes, but one instance that came under my observation is a marked exception. These were unearthed at 18 inches from the surface, and when made acquainted with the fact, more than two years after, I found there 64 of them in perfect condition, averaging 5 inches in length by 3 in breadth, well executed, and evidently completed; there were originally many more.

There are many shell-heaps of aboriginal origin along our coast, but few of them reward the seeker with anything except a few chippings, and in many even they, are wanting. The shell-heap near Keyport, described by Prof. Rau, *Smithsonian Report*, 1864, p. 370, is an exception, and is the only one in this vicinity, as far as I am aware, that can be called a genuine Kjökkenmödding; the majority having been made by the Indians in casting away the valves of the shell fish after stringing or otherwise preparing them to carry back to their more permanent habitations in the interior; for our State was traversed by well-defined trails leading from the Delaware to oyster producing inlets of the Shrewsbury, Squam and other streams. One of these heaps near Tuckerton known as the "Hummock," has its base upon the Salt Meadows, a half-mile from the firm land, and is very conspicuous as it can be seen from out at sea; it is a solid mass of clam shells (*Venus Mercenaria*), 11 feet high, 25 feet long and an average width of 6 feet; upon the top are growing several red cedars six inches in diameter, no whole shells could be found and but a few entire valves; they all showing the marks of having been opened with a rude instrument. This has been opened several times, and tons of shells carted away, but not a chipping or fragment of pottery has been seen, though it is of undoubted aboriginal origin, and upon the main land opposite and a half-mile away, ground axes, celts, and other implements have been found.

PRE-HISTORIC MANUFACTURING VILLAGE IN
THE MIAMI VALLEY, AND MOUND-
BUILDERS' RELICS.

BY S. H. BINKLEY.

In various parts of Europe, but more especially in France, localities exist which have been recognized as the sites of pre-historic manufactory villages. They are distinguished by a profusion of implements and ornaments, of stone, and in some instances bone and horn; and by the debris resulting from the prosecution of this branch of primitive industry.

Evidences of a similar character are occasionally discovered in widely separated parts of our own country. The most interesting of this class of antiquities in the Miami valley, so far as I know, is situated near West Carrollton, Montgomery county, on the farm of M. T. Dodds, Esq. The locality is elevated and commands an extensive and enchanting prospect. Here, over an area of several acres, have been found numerous specimens of pre-historic handiwork, some of which are of rare excellence.

The evidences of its manufacturing character consist in the immense quantity of broken stone with which the soil, to the depth of ten or twelve inches, is filled and the number of unfinished specimens which exhibit the incipient stages of progress. Thus, while some are roughly chipped into shape—others are ready for the polisher. But the most remarkable feature hitherto developed consists in the number of defaced and broken specimens. Their appearance is strongly suggestive of studied, malignant design, as such results could not have been produced by legitimate use. Some of the mutilated specimens—two small, grooved axes, in particular—had been perfect gems of symmetry and elegance, and highly polished; hence it is apparent that these were not broken in the process of manufacture, as has been suggested. The circumstances that led to this act of vandalism, must necessarily be left to conjecture. The most feasible that has presented itself, refers it to a practice coeval with man, namely, the destruction of everything that would give aid or comfort to the enemy.

Many of these specimens are sprinkled over with minute crystals of sulphuret of iron which, although it is not a decisive test, may be accepted as evidence of a considerable antiquity.

The question is an interesting one as to what race these operations should be referred. The proverbial indolence of the Indian tribes, and their known hostility to any permanent methodical pursuit, would seem to exclude them from any participation in it. On the other hand, the proximity of the extensive works at Alexandersville, and the discovery of implements and ornaments identical with those occasionally met with in the mounds, may be accepted as presumptive evidence that here, in the misty past, the Mound-builders exercised their mechanical genius in manufacturing the various implements and ornaments which their simple wants or tastes required.

I may here remark that the specimens recovered from this locality, comprise axes grooved and plain, fleshers, gouges, pestles or mullers, hammers, and many egg-shaped picks or hand-hammers; also, ornaments and arrow-points have been found in profusion, but mostly mutilated. Among the many specimens in my cabinet from this locality, there is one which, from its peculiar shape, appears to have been used as a nether mill stone; its diameter is ten inches; average thickness, four inches; circular in form; margin convex; sides flat and worn smooth; material, granite. The cylindrical pestle or roller may have been employed, in this case, in crushing their bread-stuff, which was preserved upon the skin or cloth on which the bed stone rested. This primitive mill appears to have been in universal favor at one time or another; a significant fact which, while it does not necessarily imply an interchange of thought, is strongly suggestive of sameness in the great brotherhood of men.

Another interesting feature that has some bearing upon the state of civilization to which the Mound-builders had attained, namely, a number of delicate notches on the margin of a fragment of what appears to have been a perforated plate or slab. Was this a record? If so, it implies a knowledge of numbers. We know that they had some unit of measure, as without this knowledge it would have been impossible to construct a perfect square.

The description of the garden beds (published in the first issue) reminds me of the "old fields" of Lancaster County, Pa. In the southern part of the County there were many isolated patches, varying in area from ten to fifty or more acres, surrounded by a dense forest. The entire surface was laid off in squares of some four feet, and elevated, presenting a striking resemblance to a checkered cornfield. They were mostly destitute of timber, except in some instances a few cedar trees or

venerable chestnut. The ground was covered with a short, wiry grass, mosses and lichens.

Those fields presented the same appearance to the first immigrant that they do to their modern successors, and were referred to the Indians. At present I shall offer no suggestions as to the probable nationality of these ancient gardens. But it is difficult to conceive of the object that prompted in the selection of such extremely sterile soil, while thousands of acres of the best land in the County lay only a few miles to the north. That they were not influenced in their choice by the pre-occupation of the fertile soil, is proven by the fact that, with a few unimportant exceptions, the entire country was covered with its primeval forest when first settled by Europeans. It is not probable that those ancient pioneers were posted in agricultural chemistry, therefore it is allowable to presume that they were governed exclusively by appearances. The beauty of situation, the copious fountain, and the stately timber, may be referred to as palliatives.

The specimens referred to as having been broken "to let the soul out," are usually found in mounds in connection with the reliquae of man. But those that I described were scattered over the surface.

Among the relics recovered with my Mound-builders' skeletons, there are two broken chert arrow points. The remaining objects comprise fragments of deers' horn (gardening tools?); one perfect bone bodkin and two broken ones; one flat, perforated stone; fragments of a bear's tusk; small piece (about two ounces) of brown hematite, and a part (about an inch) of the recurved tusk of a beaver. These were found between the femoral bones! Besides the above, I found one perfect arrow point and a small axe in the body of the mound, evidently thrown in as votive offerings. The mode of burial was unique, and clearly accounts for the excellent state of preservation in which I found the remains.

CORRESPONDENCE.

LOUDONVILLE, N. Y., Jan. 29, 1879.

Dear Sir:—In No. 2^d of the AMERICAN ANTIQUARIAN you say, p. 90, with reference to the Iroquois: "The spread of this people * * * was quite remarkable, and yet it was a growth that ended in their destruction. * * * They sold the land which they conquered from others and disappeared themselves." Also, p. 98: "The great Algonquin race has been swept from off the earth. Their tribes no longer exist," etc. The American Encyclopedia says some of the remnants of the Algonquins are now at the Lake of the Two Mountains, but that their dialect has been modified by intermixture, etc.; altogether the various tribes now number 40,000. Certainly there are 600 Delawares in Indian Territory. All of the Iroquois tribes are still represented, as follows: Canada, 7,034; viz: Mohawks, 759; Six Nations, 2,992; Oneidas, 633; Others, 2,650. United States, 6,626; New York: Senecas, Onondagos, Oneidas, Cayugas, Tuscaroras, 5,141; Green Bay: Oneidas, 1,279; Indian Territory: Senecas, 206. I am informed that there are 40 or 50 in Illinois. Also many other Algonquins. How can you harmonize the above figures with your statements?

F. E. ASPINWALL, M. D.

[We do not harmonize, we only say that they have disappeared.—ED.]

JACKSON, TENN., March 14th, 1879.

Dear Sir:—I propose to give a description of certain mounds found in Madison County, Tenn. These mounds are scarcely known outside the neighborhood in which they are situated, and our people do not appreciate the fact that we have at our very door some of the most remarkable monuments of the long-ago that there are in the United States; yet it is evident that ages before this continent was known to the people of the old world, this region was the scene of busy life, the centre of a dense population.

There are more or less mounds in every district in the County; but those to which I refer are known as the "Peirson Mounds," near the village of Pinser, in the south-east corner of the County, two miles from the Mobile & Ohio Railroad. There are in the group about forty mounds of various sizes, scattered along the Forked Deer River, within an area of about one and one-half square miles. There are several fine springs in the neighborhood. The soil is a rich black loam, and has been cultivated for about forty years. The mounds

are connected, or rather surrounded, by a line of earthworks or embankments about two miles long. Most of the mounds have been plowed over for years, and consequently are much smaller than when first seen by the white settlers; but some of them being too steep for the plowman, have preserved their original form. The largest mound is about ninety feet high, and about one thousand feet in circumference at the base, and is covered with a dense growth of trees and bushes. The second in size is thirty-eight feet high, and is pentagonal in form, with a graded avenue or approach at one corner, and is one hundred feet across the summit. There are several large poplar and beech trees growing on the top and sides of this mound. One of the poplar trees is over four feet in diameter, and long ago began to decay.

I have a great many valuable relics from this locality, one of the most interesting of which is a flint spade, a drawing of which I herewith enclose. It is seven and three-fourth inches long and six wide, seven-eighths of an inch thick in the centre.

Very respectfully,

J. G. CISCO.

BROWNSVILLE, PA., Jan. 2, 1879.

Dear Sir:—Would not an article on the history of Scientific Societies in the United States, living and dead, be within the province of the AMERICAN ANTIQUARIAN? The United States Bureau of Education, of which Hon. Jno. Eaton is Commissioner, has issued a valuable work entitled "The Public Libraries of the United States." This volume contains a brief but very interesting history of the various Historical and Scientific societies of the U. S., arranged by states, alphabetically, but does not include *all* the scientific associations now existing, nor does it give in detail the history of the various changes in these societies, and of course says nothing of defunct associations. Mr. I. P. Lesley, the State Geologist of Pennsylvania, in vol. A of the last "Report of the Geological Survey of Pennsylvania," gives a very good history of the "Geological Society of Pennsylvania," organized in 1832, died 1839, Resurrected as the "Association of American Geologists" in 1840, and merged into the now permanent and noted "American Association for the Advancement of Science" about 1848.

Many of our scientific societies now existing have arisen, phoenix-like, from the ashes of some other and similar association begun by scientific men. The present prosperous and well-known "Maryland Academy of Science" originated in 1819 as "The Baltimore Physical Association," and after dying

three deaths under as many different names, was in 1863 established under its present name, and with a very promising hope of permanency. The history of such associations would be exceedingly interesting, as showing the vicissitudes of science in this country, in its efforts for organized existence and action. Many of these efforts and their history have been perhaps entirely forgotten. I have asked in vain for and would be glad to receive some information as to the locality and history of the "American Geological Society," and "The Western Museum Society," both of which had an existence about 1820, and of "Western Academy of Natural Science," which existed in St. Louis, Mo., in 1840. These associations numbered among their members some of the most distinguished scientific men of the age, such as Benjamin Silliman, Thomas Cooper, and others.

The material for such an article as I ask for is far beyond my reach, by reason of my isolation from large libraries. I will be very grateful to any of your readers for information about the three societies above named.

HORACE EDWIN HAYDEN.

EDITORIAL NOTES.

DISCOVERY OF MOUND-BUILDERS SKULLS.

Mr. A. D. Hagar, the secretary of the Historical Society of Chicago, has kindly afforded us the perusal of two papers, which had been read before that Society. One written by James Maitland, makes mention of the exploration of several mounds near Geneva, Illinois. There were found in the mounds a number of skeletons and skulls and other relics. Some of the skeletons are described as "lying side by side, but having their bones in a position to describe the arc of a circle." Some bone needles and pieces of pottery were found with them, but what is noticeable especially as associated with the circular position of the bones, were the evident tokens of fire in the mounds. "Three feet below the surface was a considerable amount of charcoal extending through the mound at about the same depth. Below the charcoal, the earth was caked as if by a long continued fire, and a considerable deposit of ashes."

Another paper, read before the same society, from W. C. Holbrook, of Coleta, Illinois, also mentions a discovery of Mound-builders relics near Sterling, Illinois. The exploration was made in May, 1877. A stone floor or altar 6 feet long

by $4\frac{1}{2}$ wide was found only eight inches below the surface. The altar was formed of large pieces of lime-stone laid in double layers, one above the other. Charcoal and charred human bones were on the altar, and "evidences of a great heat were presented." The same paper mentions also, the discovery of a "Dolmen" or a cist composed of a quadrilateral chamber, ten feet long and four and a half wide. The wall was four feet high and was covered with large flat stones. Inside of the cist were found many fragments of human bones; one skull was also found that had been trepanned. Two more so-called "altars" are also described as situated in a valley among the hills near Clyde in Whitesides county, Illinois. These altars were situated just below the surface, but were not connected with any mound or earth-work. They were circular floors made from large flat pieces of lime-stone. They also give evidences of fire. We beg leave to suggest in reference to them, whether they were not used as a fire bed in some ancient camp or wigwam, and were not altars at all.

Mr. W. B. Gray, of Highland Park, also mentions the discovery of a skull in a mound near Fox lake, in Lake county, Illinois. This skull is certainly very remarkable; the frontal lobe or arch seems to be entirely wanting; the large projecting eye-brows, deep-set eye-sockets, the low, receding forehead, and the long, narrow and flat shape of the crown rendered it a very animal-looking skull. If it was not a posthumous deformation it certainly is a very remarkable skull and might well pass for the "missing link." It was found in a mound six feet below the surface, in company with thirteen other skeletons. The skeletons were found lying with their heads to the centre and their feet arranged in a circle around this point.

A newspaper published at Wilmington, Ohio, *The Wilmington Journal*, also contains a lengthy account of a remarkable find of relics in a mound near that place. The peculiarity of the find is that two or three inscribed tablets are said to have been exhumed.

These tablets are covered with a most wonderful series of hieroglyphics and symbolic figures which, if genuine, would probably surpass in elaborateness and strangeness of design even the famed sacrificial scene of the Davenport Tablet. A flat stone $3\frac{1}{2}$ inches by $4\frac{1}{2}$ in diameter is said to have been covered with a series of hieroglyphics; the surface is divided into four distinct squares, in which are inscribed the faces of a male and female with bodies attached resembling those of a tadpole. The squares are interwoven with curved lines, scrolls, and other hieroglyphics, and on the top of the stone are notches,

twenty in number, ten over each of the figures mentioned.

Another remarkable relic is also described, which is called the "Butterfly Relic." It purports also to be covered with squares, this time, twenty in number. In the squares are various figures of human faces, birds, the phases of the moon, etc., and on another side of the stone are inscribed certain figures of a crocodile and a female deity coming forth from a mound and presenting an oblation to the crocodile. Evidently a marvellous work, and the two tablets combined are very curious. Great excitement is said to have been awakened in the vicinity by the discovery.

RECENT LITERATURE ON ARCHÆOLOGY.

THE *Nation* for May 10th has an article on Hœckel's reply to Virchow. The question as to which knows the most seems very important to the editor of that paper.

Virchow has given his attention to anthropology—the editor says to an unprofitable branch of it—craniometry, &c. "Virchow is greatly mistaken in supposing that the scientific truth of the theory of descent depends on the discovery of a few skulls or bones."

Evidently, according to this writer, the science of embryology is much more important. The decisive point in reference to the doctrine of descent, is whether another "cell" or two may not be discovered. The rudimentary organs, "eyes which do not see, wings which do not fly, muscles which do not move," furnish the guides by which "we trace our illuminated paths through what would otherwise be the most hopeless jungle of phenomena in which human thought could be involved."

"The unknown and thus far undiscoverable origin of the Etruscan race, civilization and language, have long furnished one of the most fascinating problems." A veteran explorer, Mr. George Dennis, has, however, given many years of research to the subject, and at last brought out a book, *The Cities and Cemeteries of Etruria*. "The inscriptions, though very few and very fragmentary, are the data by which the ethnology of this famed but obscure people are to be known. The bronze *templum*, discovered at Piacenza, and the famous pair of ivory dice, from Vulci, are the only new or valuable tokens; but by these, six numerals and a number of new words in the Etruscan vocabulary are known.

The *Saturday Magazine* for April 5 contains an article upon a subject which is worthy of attention, viz., Zulu and other weapons. This way of comparing ordinary savage articles of war is very important.

A few months ago, an article was published in *Scribner's Monthly* upon the Cliff-dwellers of Arizona. The imaginative character of the article was exposed at the time in two or three newspaper articles from the pen of Governor Aldrich, published in the *Cleveland Leader*. What is wanted is, that more thorough and more reliable, though less popular, research should be continued, and then let the facts work themselves to the surface.

"Wild Babies" is an interesting article continued in *Harper's* for Nov., 1878, and amply illustrated with babies in cradles and boys without clothes. The information furnished is good; but why not classify the facts, so that we may know definitely something about the customs of the different tribes, and understand the distinctions in the nature and local habits of the babies "to the manor born?"

THE April number of *The Naturalist* has a paper by Orville A. Derby, on the artificial mounds found on the island of Marajo, Brazil. We quote a single sentence from the latter: "Of the objects made by prehistoric man, it may be said that they are curious and interesting, but devoid of taste; that is, they do not gratify *our* tastes, purified by centuries of culture and art. Among the vases of Marajo, however, are some that compare favorably with those of the ancient Greeks and Etruscans in symmetry and elegance of form, as well as in the relief and high grade of their decorations. Another interesting point in connection with the relics found there is that an illustration of the different stages of prehistoric art can be seen in the rudimentary and the more advanced forms of ornamentation. These forms include the fret, the cross, and other styles, and from the primitive forms has been worked a very interesting series of modifications.

THE *New York Tribune* for May describes a consignment of ancient pottery which has been recently exhumed from the ancient cemetery in Chiriqui. Some of the pieces are in the shape of monkeys, and others bear resemblance to the drinking cups of Assyria and Greece, having a pointed base, in distinction from the common flat-bottom vessel. Tripods were also among them, with feet which are said to be in the shape of "milk-weed pods." In the pods were slits, and inside the slits clay balls were visible. The supposition is that the feet were made in this way to be filled with sweetened liquid, so as to serve as traps for ants.

Scribner's Magazine for May has a description of the new Museum of Archæology at Rome. The articles furnished to it by Alessandro Castellani are said to be very rare and

beautiful. One of these is a "restored" car in which the sacred deities and vessels of the Romans were once carried. The restoring was made from pieces of bronze which were after months of study made to match one another after a model of a car which was found in relief on one of the fragments.

Appletons' Art Journal for March, April and May has an illustrated article on Egypt. The most interesting part is that which refers to the track of the Israelites in the exodus. Prof. Brugsch, the eminent Egyptologist, has translated a papyrus which describes a journey made at about the same date by a single traveller, and from this has identified certain stations and places. His opinion is that the Israelites did not cross the Red Sea, but the sea of weeds, which was 80 miles north.

Scribner for May has an article on the "old mill" at Newport, in which the writer maintains that this structure was originally built by the Northmen as a "baptistry," and gives a number of illustrations to show the resemblance of the "mill" *restored*, to these ancient edifices.

ANTHROPOLOGICAL NEWS.

Edited by EDWIN A. BARBER, West Chester, Pa.: to whom all communications for this Department should be forwarded.

AMONG the titles of recent archæological papers, we notice "The Cumberland (Md.) Burial Cairns," by Frank M. Offutt, in No. 6 of *Science News*.

A SERIES of interesting caves are reported to have been discovered in Page county, Va., in which, it is hoped, will be found valuable aboriginal remains.

ANOTHER soap-stone quarry has been brought to light in Virginia, on the Potomac river, by Mr. George Shoemaker, of Georgetown, D. C. This is the fourth one discovered recently in the eastern portion of the United States.

REV. M. EELS, of Shokomish, Washington Territory, has been doing good missionary work among the Indian tribes of that section. He has compiled a small book of hymns in the Chinook jargon, which will prove interesting to philologists.

A PAPER, entitled "Evidences of Cannibalism in an Early Race in Japan," by Prof. Edward S. Morse, reprinted from the "Tokio Times" of January 18th, 1879, has been received. Prof. Morse is also preparing a memoir on the pottery and other remains of the Omori, to be illustrated by seventeen

lithographic plates. This is to be published soon by the Imperial University of Tokio.

PROFESSOR E. D. COPE, of Philadelphia, is in possession of a series of obsidian and lava implements found in the western states, associated with fossil bones of recent geological time. The smaller objects, however, are more delicately chipped and delicately fashioned than anything to be seen in any of our public museums, and resemble in no respect the bungling productions of *Palæolithic* man.

MR. W. H. HOLMES, of the Hayden Survey, discovered last summer, in the Yellowstone National Park, near the head of the middle fork of Gardiner's river, extensive deposits of obsidian, from which many of the supplies of the aborigines had doubtless been obtained. In the vicinity were found great quantities of artificial flakes, among which were a leaf-shaped implement and a "core" or "nucleus."

DR. OSCAR LOEW sends the following news from Munich: "Numerous implements and relics of the stone and primitive iron ages have been found in Italy during the past year, on lakes Nemar and Zarda (palafittes) and in the provinces Mantua, Molise and Ancona. In the province of Parma artistically carved wooden implements were found below a stratum of peat. In Switzerland the "Pfahlbauten am Neuenburger See" have been further explored with much success, and many interesting bronze ornaments have been recovered."

THE "Board of Management" of the *Permanent International Exhibition*, at Philadelphia, have established an Educational Department, to consist of ten sections of science and art, each of which has been placed in charge of a competent chief. One of the objects of the Archæological and Ethnological Department will be to form a museum of antiquities, and as every facility has been offered for the proper display of collections, it is hoped that in a short time one of the largest and most valuable series of aboriginal relics in the country will be in the charge of the council. It is proposed to establish an extensive loan exhibition, for which, single specimens or entire collections are respectfully solicited, which in any manner relate to primitive man. All objects loaned will be gratefully acknowledged, will receive the most careful attention, and be always subject to the order of the owner. The following objects are particularly desired: stone and bronze implements, hieroglyphical tablets, casts, photographs, drawings, manuscripts and books; skulls, skeletons and everything obtained from graves or mounds. All contribu-

tions and communications should be sent to E. A. Barber, Dep't of Archæology and Ethnology, Permanent International Exhibition, Philadelphia, Pa.

ONE of the numerous objects of the ANTIQUARIAN will be to throw more light upon the original uses to which some of the pre-historic implements of uncommon form, that have heretofore been subjects of considerable controversy among archæologists, have been applied. A sufficient number of examples of articles of enigmatical character has been gathered together for purposes of study and comparison, and the time has come when disputed questions regarding them should be settled, if possible. In the list of such objects may be included *pierced tablets*, *perforated discs*, *ceremonial axes* (variously called *banner stones*, *scepters* and *badges of office*), *boat-shaped implements*, *collars*, *hollow tubes* of large dimensions, *hour-glass tubes*, and *bird-shaped relics*. These latter vary greatly in detail, but are all characterized by two oblique perforations at the extremities of their bases, evidently designed for attachment. A great number of uses have been attributed to them by different writers, none of which, however, are entirely satisfactory. They are said, by some, to have been worn on the heads of women after marriage, the "brooding-bird" being symbolical of maternity. Others suppose them to have been worn at the belt for the suspension of scalps. Still others claim that they were worn as amulets, or in removing the husk of corn. The most plausible theory, however, which receives weight from an examination of modern specimens recently obtained by the Smithsonian Institution from Alaska, is that some of them in certain localities were fastened to the prows of canoes. It is evident, however, that they were designed for a variety of purposes, unless their true and only use has not as yet been surmised. The question is an interesting one, and the expression of views of all interested in the subject is desired.

LINGUISTIC NOTES.

Edited by Albert S. Gatschet, Washington, D. C. Address: P. O. Box 333.

MR. ALPHONSE PINART, well known by his Alaskan researches, has spent the whole winter season in the northern Mexican States, making linguistic, paleographic and ethnologic researches. He has copied a large number of Indian rock inscriptions, which will be made public in time. He has returned to San Francisco, as the approach of the rainy season renders exploration rather difficult and unsafe.

THE programme for the third session of the *Congress of Americanists*, Sept. 23-26, announces the discussion of the following *linguistic and paleographic subjects*, and articles to be read on the same: "Decipherment of the Maya inscriptions; Notes upon the Peruvian quipos; In what particulars does the Inuit language differ grammatically from the other tongues of North America? Comparison of three dialects of the Kechua language of Peru; On polysynthetism in American languages; Languages outside of America possessed of an inclusive and exclusive plural in the first person of the verb." Mr. Lucien Adam intends to read a paper on several languages of North, Central and South America, some of which have never been made public up to this day.

A recent investigation of the KÁYOWA language has shown that it nasalizes its *vowel sounds* in a large degree. These nasals can be compared to those of the Sioux language, and to the French sounds *an, in, on, un*; but they are not comparable to the broad English nasal sounds in *sling, thong, long, sing, sink*. Initial and final sounds of a word are rarely ever nasalized. The substantive forms a plural by means of suffixes, and incorporates the possessive pronouns. The object pronoun is incorporated into the transitive verb and placed before it. The verb has a negative form, but no interrogative form; the negative is formed by inserting *hin* or *hi-in* into the stem. Káyowa is a language independent of the Shóshoni or Numa family, though it has many important words in common with it, as *Prof. J. W. C. Buschmann* has shown in his "Spuren der aztekischen Sprache."

IT is very gratifying to see that the agents of Indian Reservations and their employees are commencing to write about the *languages* spoken by their *Indian wards*. Even when attempts of this kind are not very perfect, they form a base for further studies and aid in preserving the idioms, after they are committed to the printing press. Mr. John Menaul, teacher at Laguna, Valencia County, New Mexico, has printed and published on his own missionary press, the first sheets of a primer and of a catechism in the Kéra or Quéra language, which hitherto was known to linguists only by some two hundred vocables, and seems to be endowed with a profusion of grammatic forms. In many particulars this idiom recalls the Tinne languages spoken by the Apaches of the vicinity, though it belongs to a family distinct from this northern stock of idioms. Rev. Owen Dorsey is pursuing his studies on the Southern Dakota dialects, (Otoe, Missouri, Omaha, etc.) on

the Omaha Agency, Nebraska, and Rev. M. Eells is continuing his linguistic and ethnologic researches among the western Selish tribes settled on the Skokomish Agency, Washington Territory. He has composed an elaborate article on the ethnology of these tribes, their customs, mythology, etc., and on four of their dialects, the Klalam amongst them. All who are desirous of writing down Indian languages will succeed only when they use a scientific alphabet, giving all the sounds occurring in these languages, and by discarding the English alphabet altogether, since this is totally unfit for the purpose. Those applying for J. W. Powell's "*Introduction to the Study of Indian Languages*," a volume containing blank forms, will receive it free of charge by addressing his office, P. O. Box 806, Washington, D. C.

PROF. *Francois Lenormant*, an archeologist and paleographer connected with the Bibliothèque Nationale at Paris, France, has written an "*Essai sur la propagation de l'alphabet phénicien dans l'ancien monde*," in which he also treats of the Mexican and Maya systems of writing. In the first volume, which was republished in 1875, (Paris, Maisonneuve et Cie, gr. 8°, with plates) he refers in a singularly erroneous manner to the syllabic system of Sequoya, in use among the Cherokees. He says that "fifty years ago an *unknown* genius, who lived among this tribe (settled at that time '*near New Orleans*'), attempted to introduce a syllabic alphabet. From an English alphabetic primer he selected a number of letters, whose value *was unknown to him*, composed from them two hundred partially syllabic, partially vocalic, signs and aided by his daughter, afterwards reduced them to *eighty*. At first the tribe ridiculed him, but six years after, in 1830, one-half of the tribe was able to read Cherokee in these characters. Subsequently, the Americans *destroyed the settlements of the Cherokees* and *drove the miserable remains of the tribe beyond the Rocky mountains*; the Cherokee alphabet was *forgotten* and is now a *thing of the past*." Lenormant gives as the source from which he obtained his information, *Ampère's Promenade en Amérique*, vol. 1, p. 160. This is only a single instance of the carelessness which Europeans often show in quoting their so-called "original sources on America," and it is painful to see that a book otherwise so learned, critical and useful should be disfigured by such mistakes. "The Congrès international des Américanistes" would do a good work by signaling to the European students of American archeology and ethnology such volumes as do not deserve any implicit faith on account of their superficiality and their tendency towards hasty generalization.

ETHNOLOGICAL NOTES.

PARTIES contemplating a trip to Europe and desirous of being present at the sessions of the "*Congrès international des Américanistes*," to be held at *Brussels*, Belgium, on the 23d, 24th, 25th and 26th of September, 1879, can obtain programme of sessions by addressing the delegate of the Congress, Albert S. Gatschet, 304 E. street (Northwest), Washington, D. C. Tickets of admission can be obtained of him on remitting \$2.50.

Scientific papers to be read at the sessions of the Congress must be in the hands of the "Secretary General of the Committee" before August 1, 1879, if the authors cannot themselves be present at the Congress.

OF the four rivers which encircled the *garden of Eden*, in Genesis, the Phrat and the Chiddekel had long ago been identified as the Euphrates and Tigris. A cuneiform monument of the British Museum has a series of geographical names, and among them occur *Pisan* and *Guchan*, both canals of the Euphrates. *Pisan* was a canal running south of the Euphrates, and in the epoch of Alexander the Great went under the name of Pallakopas-canal; it is the *Pison* or *Pischon* of the Bible, and *Guchan* is the *Gihon*. Therefore the Hebrew people had placed the cradle of the human race in the vicinity of Babylon. The discoverer of the above names, Prof. Dr. F. Delitsch, has developed the facts stated above in a scientific lecture held before the Geographical Society of Leipzig, January 28, 1879.

BIBLIOGRAPHY.

Maisonneuve et Cie, booksellers and publishers of books on America, 15 Quai Voltaire, in Paris, have (1878) issued a new catalogue of their publications and stock, which contains 2200 numbers. This is a reasoned catalogue, and not a mere accumulation of book titles, and since it contains nothing else but the most valuable books on *American* Ethnology, Anthropology, Geography, Travels and Diagnostics, its possession cannot fail to be of great benefit to the student of these sciences.

PREHISTORIC COPPER IMPLEMENTS. Under this title the Rev. Edmund F. Slafter, A. M., has "an open letter to the Historical Society of Wisconsin," in the *New England Historical and Genealogical Register*, for January, (Boston, 1879) in which he gives extracts from the accounts of Jacques Car-

tier and Champlain in the original French, with English translation, to show the different methods employed at that time (1534, etc., 1610, etc.) by the Algonkin and Iroquois Indians in making copper implements.

THE proceedings of the American Philosophical Society in Philadelphia, contain an article of fifteen pages by the active secretary of the Numismatic and Antiquarian Society of the same city, Mr. Henry Phillips, Jr., entitled: "Notes upon the Collection of Coins and Medals now upon exhibition at the Pennsylvania Museum and School of Industrial Art, Memorial Hall, Fairmount Park, Philadelphia." (Dated Feb. 9, 1879). The display of ancient Greek and Roman coins is considerable and one part of the collection is termed, "Series representing the medallic history of the American Revolution."

FROM the *South American Mail* office, Rio Janeiro, was issued, in 1875, an article by Prof. Ch. Fred Hartt, A. M., late chief of the geological commission of Brazil, which is republished by Prof. Otis T. Mason, of Washington D. C., in the *American Naturalist*, February, 1879, under the title: "Notes on the manufacture of pottery among savage races." (16 pages). A large amount of important details on this subject has been here gathered by the lamented author.

THE Smithsonian Institution has just published a valuable contribution to archæology in a quarto volume, which bears the following title: "*The Sculptures of Santa Lucia Cosumalwhuapa in Guatemala, with an account of travels in Central America and on the western coast of South America, by S. Habel, M. D.; Washington, 1878.*" Ninety pages and eight plates executed by means of the Albertype process, by Harroun and Bierstadt, New York City." The author of this memoir is Doctor S. Habel, a German physician settled in New York city and lately deceased. In the first or historical portion, which extends from page 3 to 64, he describes graphically and circumstantially the sights and incidents of his exploring trip through Central and the North-west of South America, made in the year 1862. The sculptures of Santa Lucia described on pp. 63-90, show a very elaborate and artistic style, more developed than most of the Aztec statues known to us and represent a different epoch of art. They are highly ornamented bassi relievi, and for the larger part seem to refer to religious subjects. The slabs were afterwards secured by Dr. A. Bastian, for the Berlin Royal Museum. More of the historical incidents of Dr. Habel's visit to the ruins can be found in Smithsonian Annual Report, of 1877.

BOOK REVIEWS.

YOUNG FOLKS' SERIES. A Book of American Explorers, by Thomas Wentworth Higginson. Boston: Lee & Shepard, 1877.

This is a series of extracts from the original narrations of the early discoverers and explorers of the American coast. The book commences with the legends of the Northmen, and the extracts are from the Icelandic works. This chapter is followed by "Select Letters of Columbus," "Verrazanos' Narrative," the narrative of Cabeza de Vaca, extracts from Cartier's narrations, etc. There are also extracts on the lost colonies of Virginia, Gosnold's adventures, Captain John Smith, Indian traditions of Hudson's arrival, Miles Standish at Cape Cod, and the Massachusetts Bay colonies.

The volume is a valuable one, as it is equal to a history in itself. To those who do not have access to the books themselves, and there are very few who do, it will be interesting to find here so many original extracts, and to read the very language of these narratives. To the student of prehistoric tokens it is especially valuable, as it contains many descriptions of the various aboriginal tribes and their villages, as well as the different weapons and articles of dress, and the houses and modes of living which were then known, but which have all disappeared.

TALES OF ANCIENT GREECE. By Rev. G. W. Cox, M. A. Chicago: Jansen, McClurg & Co., 1879. 372 pp.

The charms of Greek Mythology never cease to interest the intelligent. New books are all the time appearing, and yet others are sought for. This volume is one of the latest and best on the subject. The author follows the historic rather than the allegorical method. The tales themselves are told in a brief and comprehensive way, without any attempt at poetical embellishment or philosophical explanation.

The book is well printed on tinted paper, beautifully bound in blue and gold, and is very low in price. The publishers are worthy of praise for the elegant style in which the volume is presented.

YOUNG FOLKS' HISTORY OF THE UNITED STATES. By Thomas Wentworth Higginson. Boston: Lee & Shepard, 1879.

This history commences with the earliest inhabitants and ends with General Grant's administration. The first pages treat of the epoch of the mammoth, the Mound-builders, the red Indians, the coming of the Northmen, the coming of Columbus, &c., but the story passes on rapidly over the whole period of the colonies, the French and Indian war, the Revolution, the lives of the Presidents, up to the last war and the

subsequent events. It is well that so careful a writer has given his attention to this comprehensive record. While the book is interesting to the young, it is also accurate and reliable. The descriptions of prehistoric antiquities are especially valuable, and the cuts contained in the book serve to illustrate them and to make it more entertaining. It is gratifying that so much attention is given to the Mound-builders, as by this means an interest is likely to be awakened which may hereafter bring to us the solution of some of the problems concerning them.

MANUAL OF THE VERTEBRATES OF THE NORTHERN UNITED STATES, including the district east of the Mississippi river, and north of North Carolina and Tennessee, exclusive of maritime species. By David Starr Jordan, Ph. D., M. D., Professor of Natural History in Butler University. Second edition. Chicago: Jansen, McClurg & Co., 1878.

This is the rather formidable title of a book which is more a text-book for colleges than it is any special disquisition on the vertebrates of a district. One would as soon think of reading a dictionary through as to take this volume up for any interest it would awaken. As a work for reference it no doubt has great value, and for college classes who need the drill of accurate definition and specific description, it will be very useful. The book has already been introduced in Michigan University and some other colleges, and in this way has met considerable demand.

MIDNIGHT MARCHES THROUGH PERSIA. By Henry A. Ballantyne, A. M., with an introduction by Hon. J. H. Seelye, D. D. Boston: Lee & Shepard, 1879.

This is a narrative of a journey taken by an American commercial traveller, through a new and comparatively unknown section. The author of it was accompanied by his wife and child. He narrates the adventures which befell the party in a lively and interesting manner, and by the very minuteness of his description of the weather and of the difficulties of the route, conveys a vivid idea of the country through which he passed. There is no attempt to give a scholarly or a scientific description of Persian people, their language, customs or habits, nor even of the country, but the object seems to be to present a readable book of travels, and in this the author has succeeded. It is published in elegant style, and forms an attractive volume for the library or for the table.

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